

ARE ALCOHOL PROBLEMS LINKED WITH AN INCREASE IN DEPRESSIVE SYMPTOMS IN ABUSED, INNER-CITY AFRICAN AMERICAN WOMEN?

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Objective. Little is known regarding the link between intimate partner violence (IPV), alcohol problems (AP), and depression in inner-city African American women. We sought to investigate whether abused inner-city African American women reporting AP endorsed more depressive symptoms compared to women reporting either AP or IPV or reporting neither.

Method. Participants for this cross-sectional study were 361 African American women seeking medical care at a large public hospital. Measurements included the Index of Spouse Abuse, Michigan Alcoholism Screening Test, and the Brief Symptom Index–Depression Subscale to assess IPV, AP, and depressive symptoms, respectively. Based on IPV and AP status, participants were assigned to one of four non-hierarchical risk groups: (i) low or no IPV, no AP; (ii) high IPV alone; (iii) AP alone; or (iv) both high IPV and AP. Additive effect of high levels of IPV and AP on outcome were assessed using logistic regression techniques.

Results. Thirty percent reported high IPV levels, and 18% had AP. Compared with participants reporting both no AP and low or no IPV, those reporting either high IPV levels or AP reported moderate to severe depressive symptoms 4 times more often ($p < .001$). Women reporting high IPV and AP endorsed moderate to severe depressive symptoms 8 times more often than women reporting neither ($p < .001$).

Conclusions. Among inner-city, African American women, depressive symptoms are highest among those reporting both high IPV levels and AP. Health care systems serving similar communities should implement a systematic approach to identifying IPV, AP, and depression in patients.

Background

Intimate partner violence (IPV) is a common problem in women seen in medical settings and is known to be associated with profound effects on the

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physical and mental health of survivors (Campbell, Jones, et al., 2002; Coker et al., 2002; Ernst, Weiss, Nick, Casallete, & Garza, 2000; Gin, Rucker, Frayne, Cygan, & Hubbell, 1991). Of all the mental health problems experienced by IPV survivors, depression is one of the more prevalent. Data from a recent meta-analysis suggest that nearly 50% of abused women report depression and IPV survivors are three times more likely to develop depressive symptoms than women not exposed to IPV (Campbell, Jones, et al., 2002; Coker et al., 2002; Ernst, Nick, Weiss, Houry, & Mills, 1997; Gin et al., 1991).

Alcohol problems (AP), common correlates of IPV,

also are associated with increased rates of depression (Regier et al., 1990; Sullivan, Fiellin, & O'Connor, 2005). AP are associated with worse depression course, increased risk of suicide, and an increase in health care utilization (Sullivan et al., 2005). Most of the studies that have examined the link between AP and IPV have focused on perpetrator alcohol use increasing the risk of IPV or the increased risk in adverse outcomes for the survivor as a result of alcohol use (Caetano, Schafer, & Cunradi, 2001; Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997; Kyriacou et al., 1999; Kyriacou, McCabe, Anglin, Lapesarde, & Winer, 1998; Murphy, O'Farrell, Fals-Stewart, & Feehan, 2001). There are a few studies that suggest the survivors of a violent physical or sexual assault, including assault by an intimate partner, are more likely to have AP (Kilpatrick et al., 1997; Kyriacou et al., 1999; Kyriacou et al., 1998; Murphy et al., 2001; Testa, Livingston, & Leonard, 2003). However, there are data to the contrary; Testa et al. (2003) did not find an association between heavy episodic drinking and subsequent victimization at the hands of an intimate partner (Testa et al., 2003). Furthermore, little is known about other roles that alcohol use might play in a survivor's experiences of IPV, and the impact, if any, that AP might have on the presence and severity of depressive symptoms in abused women.

To date, the association among IPV, AP, and depressive symptoms has received scant attention in the literature, especially among inner-city, African American women (Lipsky, Caetano, Field, & Bazargan, 2005; Lipsky, Caetano, Field, & Larkin, 2005). Population-based studies have shown that African Americans who are socioeconomically disadvantaged are an at-risk group for IPV; specifically, there are data to suggest that African American women are at increased risk for partner violence, although after controlling for both survivor gender and annual household income, race is no longer a significant variable (Rennison & Planty, 2003; Rennison & Welchans, 2000; Tjaden & Thoennes, 2000). Prior work has demonstrated that abused inner-city African American women have poorer mental health outcomes, including an increase in depressive symptoms, as well being at higher risk of making a suicide attempt compared with inner-city African American women who have not been abused (Houry, Kaslow, & Thompson, 2005; Kaslow et al., 1998; Thompson et al., 1999). Investigations in this population also have revealed that IPV is associated with an increase in alcohol use by the survivor (El-Bassel et al., 2003) and alcohol use is associated with more depressive symptoms (Thompson, Kaslow, & Kingree, 2002). Experts also have noted that the health of African American women may be jeopardized through intersecting forces of poverty, vulnerability to diseases, mental illness, and IPV (Campbell, Sharps, Gary, Campbell, & Lopez, 2002); at

least one study suggests that they are at increased risk of not receiving health care services, which may increase their vulnerability to adverse outcomes resulting from untreated mental health problems (Paranjape, Heron, & Kaslow). Given these data, abused inner-city African American women who have AP may be especially vulnerable to experiencing poorer mental health, including elevated levels of depressive symptoms. Therefore, we sought to investigate whether or not abused inner-city African American women who report AP are more likely to report symptoms of depression than women who are not abused, or do not have AP, or who report neither IPV nor AP.

Method

Participants

The parent study for this investigation was designed to identify risk and resilience factors for suicide attempts among inner-city African American women (Kaslow et al., 1998; Thompson et al., 1999). The study was conducted at a large, University-affiliated tertiary care public hospital in the Southeastern United States that serves a primarily indigent, minority population. Participants for this parent study ($n = 361$) were African American women between the ages of 18–64, seeking medical or psychiatric care at the study site. Participants were excluded from the study for the following reasons: (1) they refused to participate (“refusers”); (2) they had a life-threatening medical condition; and (3) they demonstrated significant cognitive impairment, in combination with literacy levels, or they were unable to complete the protocol (e.g., were acutely psychotic or delirious).

Procedure

Potential research participants were approached by members of the research team, which included undergraduate and graduate students and postdoctoral fellows from the fields of psychology and public health. All team members were trained in interviewing techniques and supervised weekly by the principal investigator (N.K.). After approaching a potential participant, the team member explained the purpose of the study, answered questions, obtained written consent from interested women, and determined study eligibility. Although participants were screened for eligibility at the time of referral, the study interview was conducted at a time that was mutually convenient to the participant and the study personnel. Eligible participants were interviewed in a private, designated area of the clinic, where the team member verbally administered the study questionnaire during a 2- to 3-hour face-to-face interview. All study participants were paid a \$25 honorarium and provided with refer-

rals to community agencies. The study protocol was approved by the University's Institutional Review Board and the hospital's research oversight committee prior to data collection.

Measures

Demographic measures. The demographic items measured and used for this investigation include age in years, marital status, employment status, and education level in years of schooling completed.

Predictor variables. The Index of Spouse Abuse (ISA; Hudson & Mcintosh, 1981), a 30-item measure, assessed the severity of physical and nonphysical abuse experienced at the hands of an intimate partner. Items were rated on a 5-point Likert scale ranging from "never" to "very frequently." Weighted item responses are summated into 2 subscales: ISA physical (ISA-P) and ISA nonphysical (ISA-NP). The ISA has excellent internal consistency reliability, good discriminant validity, very good convergent validity (Hudson & Mcintosh, 1981), and excellent construct validity (Heron, Thompson, Jackson, & Kaslow, 2003). It has good psychometric properties with other samples of African American women (Campbell, Campbell, King, Parker, & Ryan, 1994; Cook, Conrad, Bender, & Kaslow, 2003). Participants who scored either >10 on ISA-P or >25 on ISA-NP were classified as high IPV; participants who scored below both these cut-points were classified as low or no IPV. The Brief Michigan Alcoholism Screening Test (Brief MAST) is a 10-item, questionnaire designed to assess AP. Response options for each item are either yes or no. Items are summed with 1 point assigned to each affirmative response. Scores of >6 are indicative of AP. Therefore, participants with MAST scores >6 were considered to have AP; those scoring ≤6 were considered to be free of AP (Pokorny, Miller, & Kaplan, 1972).

Cumulative risk variable. Based on participant IPV and alcohol use status, an ordinal nonhierarchical risk variable was created such that participants who reported low or no IPV, and no AP, were assigned to group 1; participants who reported only high IPV were assigned to group 2; participants who reported only AP were assigned to group 3; and participants reporting both high IPV and AP were assigned to group 4.

Outcome variable. Depressive symptoms were assessed via the Brief Symptom Index (BSI)—Depression subscale (BSI-DEP; Derogatis, 1983, 1993). The BSI is a 53-item symptom inventory designed to measure psychological symptom patterns. The BSI contains 9 subscales, one of which assesses depressive symptoms and consists of 6 items that represent the full range of

indicators for depressive symptoms. It has excellent reliability ($\alpha = 0.85$) and convergent validity ($r = 0.95$). Respondents rate the amount of distress caused by these depressive symptoms on a 5-point scale ranging from 0 (not at all) to 4 (extremely). The raw scores are summed and converted to standardized *T* scores. Participants who scored above a *T* score of 70 were considered to have moderate to severe depressive symptoms, as they scored in the 98th percentile of a normative population, whereas participants with *T* scores <70 were considered to have low or no depressive symptoms.

Statistical Analyses

We tested bivariate associations between each predictor variable (IPV and AP) and the outcome (depressive symptoms) using the χ^2 test. Separate bivariate analyses of the demographic variables were conducted for each outcome to assess for potential confounding, using ANOVA for age and education, and the χ^2 test for employment status and marital status. We used logistic regression techniques, modeling the cumulative risk variable on depressive symptoms, first without controlling for significant demographic variables and then with these variables added to the model. Thus, crude and adjusted odds ratios with 95% confidence intervals were estimated for each risk group using Group 1 as the reference group. A *p* value of .05 was used for all tests of significance; all analyses were conducted using SPSS software, version 13.0.

Results

Of the 414 women approached for the study, 32 (7.7%) refused to participate, and 21 were excluded, resulting in an overall participation rate of 87.2%. The mean participant age was 32.2 years (SD = 10.4 years). Overall, the mean participant educational attainment was 11.7 years; 40% were employed and 17.7% of participants were either married or cohabited. There were no significant differences in the demographic data between refusers and participants except the former were older (M_{age} refusers = 36.2 years; $p < .05$). Thirty-nine percent of participants reported moderate to severe depressive symptoms. One third of the participants reported high IPV levels, and 18% reported AP. Being unemployed and having attained a lower grade level was associated with moderate to severe depressive symptoms; no associations were found between depressive symptoms severity and other demographic factors (Table 1). Therefore, employment status and education level were added to the regression model.

Table 1. Demographic characteristics by depression status

Demographic characteristic	Moderate to severe depressive symptoms (<i>n</i> = 142)	Low or no depressive symptoms (<i>n</i> = 217)	Total (<i>N</i> = 359)	Statistic	<i>p</i> -Value
Mean age (y) (SD)	32 (9.2)	32.4 (11.1)	32.2 (10.4)	F = 0.102	.75
Educational attainment in grade level (SD)	11.4 (1.6)	11.9 (1.3)	11.7 (1.5)	F = 10.953	.001
Employed, <i>n</i> (%)	34 (24.1)	107 (49.3)	141 (39.4)	$\chi^2 = 22.7$	<.001
Married, <i>n</i> (%)	29 (8.1)	39 (10.9)	68 (18.9)	$\chi^2 = 0.336$.56

Abbreviation: SD, standard deviation.

Cumulative Effect of Intimate Partner Violence and Alcohol Problems on Depressive Symptoms

When controlled for between-group differences in demographic factors, participants reporting high IPV levels were 4.3 times more likely to report moderate to severe depressive symptoms, ($\chi^2 = 25.87$; $p < .001$) when compared with the reference group (group 1). Likewise, women reporting AP were also 4.3 times more likely to report moderate to severe depressive symptoms ($\chi^2 = 14.62$, $p < .001$) when compared with the reference group. However, women reporting both high IPV levels and AP were 8 times more likely to endorse elevated levels of depressive symptoms compared with women who reported neither IPV nor AP ($\chi^2 = 17.97$, $p < .001$; Table 2).

Discussion

In this study, we demonstrate that, among inner-city African American women, the likelihood of experiencing depressive symptoms is highest when women are abused and report AP. Research to date has focused on excessive alcohol use as risk factor for injury from IPV, in addition to being a risk factor for being a perpetrator of violence against an intimate partner (Caetano et al., 2001; Kyriacou et al., 1999; Kyriacou et al., 1998; Lipsky, Caetano, Field, & Bazargan, 2005). Our data suggests that AP among IPV survivors increases the likelihood that these women also self-report elevated levels of depressive symptoms. Abused inner-city African American women are al-

ready at increased risk of experiencing more mental health problems, including depression (Houry et al., 2005), substance abuse (El-Bassel et al., 2003), and suicide attempts (Kaslow et al., 1998). Alcohol use has been independently associated with an increase in depression and depressive symptoms (Regier et al., 1990), which could be a function the central nervous system depressant effects of alcohol. However, AP might interfere with a survivor's ability to seek mental health care when appropriate. Furthermore, these problems may increase a survivor's dependency on her abusive partner, in turn interfering with her ability to seek care. All these factors can contribute to an increase in depressive symptoms in a population that may not utilize health care services when needed (Paranjape et al., 2006). Our data are alarming in that we have shown that being exposed to IPV and excessively using alcohol seem to have an additive impact on the mental health of those women who are already at risk of not receiving the services they need.

This study has a few limitations. First, because the study is cross-sectional, conclusions cannot be drawn regarding the temporal association between IPV, AP, and depressive symptoms. Longitudinal studies are needed to assess the role that AP play in the link between IPV victimization and depressive symptoms. Next, our study was not designed to assess utilization of services, nor did we measure barriers to receiving these services. Therefore, we were not able to determine if the greater severity of depressive symptoms reported by women who also reported AP and IPV

Table 2. Additive effect of high intimate partner violence levels (high IPV) and alcohol problems (AP) on depressive symptoms

Depression risk status (<i>N</i> = 359)	Crude odds of moderate to severe depressive symptoms (95% CI)	Adjusted odds of moderate to severe depressive symptoms (95% CI)*	Wald χ^2	<i>p</i> -Value
Group 1 (<i>n</i> = 211) Low or no IPV, no AP	—	—	—	—
Group 2 (<i>n</i> = 84) High IPV alone, no AP	4.51 (2.63–7.72)	4.33 (2.48–7.57)	25.87	<.001
Group 3 (<i>n</i> = 38) AP alone, low or no IPV	4.94 (2.39–10.18)	4.30 (2.04–9.07)	14.62	<.001
Group 4 (<i>n</i> = 26) Both high IPV and AP	10.73 (4.08–28.2)	8.50 (3.13–23.13)	17.97	<.001

Risk status data missing for 2 participants.

Abbreviations: AP, alcohol problem; CI, confidence interval; IPV, intimate partner violence.

*Adjusted for employment status and grade level attained.

was as result of lack of referral or inability to obtain services despite referral. Third, the Brief MAST measures AP, not problem drinking (Pokorny et al., 1972). It is possible that strength of the association between IPV, AP, and depression may be different if problem drinkers could have been identified by using a measure of frequency and quantity of alcohol use, such as the AUDIT (Saunders, Assland, Babor, De La Fuente, & Grant, 1993). Finally, our findings cannot be generalized to abused, poor women from other ethnic backgrounds or to women from other socioeconomic strata.

Based on the findings from this study, one could make a case for targeted screening of inner-city minority women for AP, IPV, and depression when they present for health care visits. A common thread linking these 3 comorbidities is that these are problems that are not readily disclosed and not easily identified by health care and service providers. Women seen in medical settings rarely volunteer an IPV history, yet will disclose if asked, and believe that health care providers can help (Gerbert, Abercrombie, Caspers, Love, & Bronstone, 1999; Rodriguez, Quiroga, & Bauer, 1996). Health care providers are getting better at identification of IPV in the face of injury, but still do not inquire about abuse routinely or often enough (Rodriguez, Bauer, McLoughlin, & Grumbach, 1999). Similarly, individuals who excessively use alcohol often do not recognize that they have a problem; even if they do recognize the problem, may not disclose it to provider unless asked (Botelho, Skinner, Williams, & Wilson, 1999). At the same time, health care providers often fail to identify AP among patients seeking routine medical care (Cleary et al., 1988). Finally, patients suffering from depression are more likely to be seen first by primary care providers than specialists, but the detection and treatment of depressive disorders is far from optimal (Wang, Berglund, & Kessler, 2000). The underdetection of these problems is unfortunate given that there are effective interventions available for IPV, AP, and depression once these conditions have been identified, and affected individuals are able to access these services (Berglund et al., 2003; McFarlane, Groff, O'Brien, & Watson, 2006; Rush & Beck, 1978; Sullivan, Campbell, Angelique, Eby, & Davidson, 1994; Sullivan & Davidson, 1991; Weissman, Markowitz, & Klerman, 2000).

Given what we know about the identification and adequate treatment of IPV, AP, and depression in medical settings, and despite the debate about the efficacy of screening for them, it is essential that health care providers screen for these problems that frequently coexist. Identification is not enough; there are data that indicate women identified with IPV or AP often may not be referred for appropriate services or cannot access the recommended services (Kothari & Rhodes, 2006; Wang et al., 2000). Thus, health care

providers need to ensure that appropriate services are made available, and at follow-up visits assess whether or not their patients were able to access recommended services. More studies are needed to assess the efficacy of such practices.

Even though effective interventions for IPV, AP, and depression do exist, targeted interventions to help abused women with comorbid AP and depression are not available. These need to be developed and their effectiveness needs to be tested (Briere & Jordan, 2004). Until such data are available, health care systems serving urban communities should consider developing and testing integrated treatment protocols for such women. There are other implications of our findings as it relates to health care and social services delivery. Mental health and social service professionals need to be aware of the possibility that their clients may have other comorbidities that they do not routinely screen for. They need to be prepared to identify these problems and manage them, or refer to providers who will manage them appropriately. Further, mechanisms need to be put in place to assist people in accessing these services, because perpetrators of abuse can prevent their partners accessing the care they need (McCauley, Yurk, Jenckes, & Ford, 1998). Indeed, there is a call to mental health professionals to integrate the treatment of comorbid mental health and substance abuse problems (O'Brien et al., 2004). Taking this one step further, the availability of services for IPV, substance abuse, and mental health problems under one roof, might be the optimal method to enhance the chances of full recovery for abused, inner-city women.

In conclusion, abused inner-city African American women are especially at risk for depressive symptoms if they also report AP. Identification of depression or problematic alcohol use should trigger an inquiry for abuse in such patients. Given the debate over universal IPV screening (Lachs, 2004) and despite the underdetection of IPV by physicians (Rodriguez et al., 1999), having providers in inner-city health systems focus their case-finding efforts on such high-risk groups may be one way to improve the mental health of abused women among inner-city women.

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