

INTIMATE PARTNER VIOLENCE AND SUBSTANCE ABUSE AMONG MINORITY WOMEN RECEIVING CARE FROM AN INNER-CITY EMERGENCY DEPARTMENT

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A woman's drug and alcohol use has been found to increase her risk of experiencing intimate partner violence (IPV).

Objective. The study describes the rates of lifetime and current IPV among women awaiting care in an emergency department and explores the association between IPV and having a drug abuse problem, and IPV and having an alcohol abuse problem, after controlling for demographic factors and history of childhood victimization.

Methods. Face-to-face interviews were conducted with 143 low-level triaged women recruited from an inner-city emergency department.

Results. Nearly one-half reported ever experiencing IPV, and over 18% reported IPV during the year before the interview. A higher proportion of abused women reported a history of regular crack, cocaine, or heroin use and visiting shooting galleries or crack houses. Participants who were physically abused by their partner during the past year (15%, $n = 21$) were more likely than nonabused women (85%, $n = 122$) to report higher scores on the Alcohol Use Disorders Identification Test (AUDIT) (4.9 vs. 2.4), a measure of alcohol-related problems, and the Drug Abuse Severity Test (DAST) (3.0 vs. 1.3), a measure of drug-related problems. Sexually abused women (6%, $n = 9$) were more likely than their counterparts (94%, $n = 134$) to have significantly higher AUDIT scores (6.4 vs. 2.5). The findings have implications for how the intersecting public health problems of IPV and substance abuse should be taken into consideration in research and patient care protocols in emergency departments.

Introduction

Emergency departments (EDs) serve a disproportionate number of women seeking medical care for injuries or symptoms related to intimate partner violence (IPV).^{1,2} However, rates of IPV among samples of women treated in EDs vary considerably. The lifetime prevalence of IPV among studies of women seeking

emergency medical care ranges from 22% to 55%, with higher rates among low-income, inner-city populations.^{3,4}

Examination of substance abuse has increasingly become a focus of research with victims of IPV. Some studies have suggested that a victim's substance abuse leads to IPV,^{5,6} whereas others have suggested that IPV leads to substance abuse,^{7–10} or that the relationship between the two phenomena is reciprocal.^{7,11} Although the victim's substance abuse has recently been recognized as being related to the experience of IPV among women receiving care from EDs,^{3,12} this topic has not been researched systematically.

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To the best of our knowledge, the study presented herein is the first investigation into the relationship between IPV victimization and drug use among Latina and African-American women receiving care from EDs. The study uses a cross-sectional design to investigate the association between the victim's substance abuse and IPV when demographic factors and history of victimization are controlled statistically.

The purpose of the present study is: 1) to describe the rates of lifetime and current partner abuse among women in an ED; 2) to examine through univariate and bivariate analysis the relationship between recent IPV and having a drug problem, and recent IPV and having an alcohol problem; and 3) to examine through multivariate analysis the associations among having a drug problem, having an alcohol problem, and IPV while also controlling for demographic factors and history of victimization.

Methods

Sample recruitment and selection

This study was conducted between January and August 1996 as part of another study examining the relationship between IPV, substance use, and human immunodeficiency virus (HIV) risk. Women were recruited from the waiting room of the ED at a New York hospital. More than half of the hospital's patient base is Latino/a, most of whom are Puerto Rican. Two bilingual recruiters approached all female patients who had been assigned to the lowest nonacute triage level by the ED staff. This hospital's ED protocol defines patients at the lowest triage level as presenting with symptoms of a nonurgent nature that still require medical assessment and intervention. The interviewers recruited potential participants 6 days per week, between the hours of noon and 7 PM, when most low triage patients arrive in the ED. If the woman was interested in participating, she was invited to complete a 10-min screening interview to determine eligibility.

To be eligible, the woman had to be between the ages of 18 and 55, sexually active with a male partner during the past 90 days, and assigned to the lowest nonacute triage level. Only women who were sexually active within 90 days were enrolled because one of the major interests of the parent study was the use of barrier protection (e.g., female or male condom) among sexually active women. The final sample for this study consisted of 143 women. We conducted one-to-one interviews lasting approximately 40 min with study participants in a private office in the ED. Study participants received \$15 as compensation.

The study complied with the human subjects' protection requirements of the institutional review boards of St. Barnabas Hospital and Columbia University.

Measurement

Questionnaire items covered demographics, alcohol and drug use, IPV history, and history of childhood physical and sexual abuse.

Alcohol Use Disorders Identification Test (AUDIT). The 10-item AUDIT questionnaire was designed by World Health Organization-affiliated investigators to measure alcohol consumption and personal and social harm reflective of symptoms of drinking dependence during the past year. All items in the AUDIT refer directly to drinking and its effects. Items 1–3 measure alcohol consumption, items 4–6 measure dependence, and items 7–10 measure personal and social harm of drinking. Each item is measured on a five-point Likert scale, with a score range of 0 to 40. Earlier alcohol-related studies used a cutoff score of 10 to indicate problem drinkers.¹³ The AUDIT has been found to have a high internal consistency and validity with different populations.¹⁴

Drug Abuse Severity Test (DAST). The 10-item DAST questionnaire measures a respondent's drug-related problems in the past year. DAST scores range from 0 to 10; scores of 5 and higher indicate that the person has drug-related problems. Studies evaluate the DAST as having high internal consistency and validity.^{15,16}

Other substance use variables were assessed by asking whether or not the respondent used alcohol, cocaine, crack, heroin, marijuana, or other drugs in the past 30 days as well as ever in her life (1 = Yes, 0 = No). Respondents were also asked whether or not they had shared injection equipment with another person, visited a crack house (i.e., "a place where drug users congregate to buy and smoke crack and where sex is often exchanged for money or drugs"), visited a shooting gallery (i.e., "a place where drugs are sold and injection equipment can be rented for use on-premises"), ever enrolled in drug treatment, and ever enrolled in alcohol treatment in their lifetime.

IPV was defined as any incident of physical or sexual abuse by an intimate partner (boyfriend or spouse). To assess incidents of physical abuse, participants were asked whether they had suffered injuries inflicted by intimate partners ever in the past and in the previous year, slapped, punched, kicked, whipped, beaten, restrained so she could not move, choked, strangled, or threatened with a knife or gun. Sexual abuse was defined as being verbally or physically forced into having "unwanted or uninvited" sexual activity by her partner. The phrase "unwanted or uninvited" sexual activity to define sexual abuse has been adopted from other studies.^{17,18} We recorded the frequencies of these incidents during the past year. As a result, there were three dichotomous measures of IPV indicating whether or not a woman had experi-

enced: 1) physical abuse, 2) sexual abuse, and 3) both physical and sexual abuse combined during the past year. We also used three scales for each, measuring their frequencies.

In addition to the three variables of our main interest (alcohol use, drug use, and IPV), we obtained information on demographics and childhood victimization to describe the characteristics of our study sample as well as for purposes of control.

Demographics included age, years of education, ethnicity, marital status, having children under the age of 18, and any employment in the past 3 months. We also included items that assessed whether or not the respondent lived with someone with a drug or alcohol problem, received public support as her only source of income, and experienced homelessness during the past year.

History of childhood victimization combined childhood physical and sexual abuses. Childhood physical abuse included whether or not a woman reported having suffered painful physical injuries or had been punched, pushed, shoved, kicked, whipped, or beaten by a parent or guardian before the age of 16. Childhood sexual abuse was assessed by asking whether or not she had been forced into “unwanted or uninvited” sexual activity before the age of 13 with a male five or more years her senior.

Data analysis

Data were analyzed with SPSS (Version 8). First, we describe demographics, history of childhood victimization, alcohol use, drug use, and experiences of IPV. Second, the bivariate association between substance abuse and IPV was examined by using *t* tests.

Finally, partial correlation analysis between the frequency of combined IPV, AUDIT score, and DAST score was employed to explore further the association between substance abuse and IPV by controlling for the effect of confounding variables. As we have mentioned, IPV and substance abuse are chronic and recurrent, and thus, it is difficult to determine the causal direction between the two. For this reason, we chose partial correlation over multiple linear regression to control for other potential confounding variables.

To select confounders, we first examined the bivariate association *between* the potential confounding variables (demographics and history of childhood victimization) and the three variables of our main interest (the frequency of combined IPV, AUDIT score, and DAST score). If a potential confounding variable was significantly associated with one or more of the three dependent variables, the variable was included in the final analysis as a control variable.

Table 1. Sample demographics and history of childhood victimization (*N* = 143)

	Mean	SD
Age (years)	32.0	9.0
Amount of education (years)	11.7	2.4
	<i>n</i>	%
Ethnicity*		
Latina	81	57
African American	55	39
Other	6	4
Marital status		
Married	25	18
Not married	35	25
Never married	83	58
Has children under 18*	102	72
Employed in the past three months	50	35
Lives with someone with a drug/alcohol problem	20	14
Public support is the only income source*	60	42
Homeless past year	14	10
Experienced childhood physical and/or sexual abuse*	46	32

**N* = 142 due to a missing case.

Results

Demographics

The mean age was 32.0 years (*SD* = 9.0), and the mean level of education was 11.7 years (*SD* = 2.4). Of those who self-reported ethnicity, there were 81 Latinas (57%), 55 African-Americans (39%), and six others (4%) in the sample. Twenty-five (18%) were married; 35 (25%) were either separated, divorced, or widowed; 83 (58%) were never married. Of the total sample, 102 (72%) indicated that they had children under the age of 18. Over one-third of the women (35%, *n* = 50) had been employed in the past 3 months.

Twenty women (14%) reported that they lived with someone who had a drug and/or alcohol problem. Sixty women (42%) indicated that their only source of income was public support in the form of Temporary Assistance to Needy Families/Safety Net Cash Assistance, Food Stamps, Supplemental Security Income/Disability, or unemployment/workers' compensation. Fourteen women (10%) experienced homelessness during the past year.

Childhood victimization

Of the total sample, one-third (32%, *n* = 46) reported being physically and/or sexually abused as children (Table 1). Almost one-quarter (23%, *n* = 33) reported physical abuse before the age of 16 by a parent or guardian, and 14 women (10%) reported that this abuse was life-threatening. Of the total sample, 15% (*n* = 22) reported sexual abuse occurring before the age of 13 by a male who was five or more years their senior.

Substance abuse characteristics

Participants' substance abuse is summarized in Table 2. The mean AUDIT score was 2.7 (*SD* = 3.8) and that

Table 2. Substance abuse and drug risk behavior among sample (N = 143)

	Mean	SD
AUDIT score*	2.7	3.8
DAST score	1.5	2.5
	<i>n</i>	%
AUDIT score: Above cut-off score*	14	10
DAST score: At or above cut-off score	31	22
Alcohol use		
In the past 30 days*	34	24
Any drug use		
In the past 30 days [†]	28	20
Ever	82	57
Cocaine/crack use		
In the past 30 days*	7	5
Ever	44	31
Heroin use		
In the past 30 days [†]	2	1
Ever	15	11
Marijuana use		
In the past 30 days [†]	22	16
Ever	77	54
Ever shared a needle with someone	5	4
Ever visited a crack house	21	15
Ever visited a shooting gallery	6	4
Ever enrolled in drug treatment	26	18
Ever enrolled in alcohol treatment	8	6

*N = 142 due to a missing case.

[†]N = 141 due to missing cases.

of the DAST was 1.5 (SD = 2.5). Ten percent of the participants had AUDIT scores above the cutoff point of 10, indicating these individuals have alcohol problems. About 22% had DAST scores at or above the cutoff score of 5, which indicates drug-related problems.

Eighty-two women (57%) had used an illicit substance at some point in their lives. One-fourth of the women (24%, *n* = 34) had used alcohol, and 20% (*n* = 28) had used an illicit substance during the past year, primarily marijuana (*n* = 22). Forty-four (31%) had ever used cocaine/crack, 15 (11%) used heroin, and 77 (54%) used marijuana. Twenty-one participants (15%) had ever visited a crack house. Five (4%) reported ever sharing injection equipment with another drug user, and six (4%) had visited a shooting gallery. Eight women (6%) ever enrolled in alcohol treatment, and 26 (18%) ever enrolled in drug treatment.

IPV characteristics

Forty-one percent of the women indicated that they had suffered physical injuries at the hands of an intimate partner or had been slapped, punched, kicked, whipped, beaten, or restrained so they could not move. Nearly one-quarter (24%, *n* = 34) experienced life-threatening harm, meaning that they had been choked, strangled, or had their life threatened with a knife or a gun. Combining the aforementioned items, 62 women (43%) had experienced some form of physical abuse in their lifetime, as shown in Table 3.

Table 3. Experience of intimate partner violence among sample (N = 143)

	<i>n</i>	%
Physical abuse		
During the past year	21	15
Ever	62	43
Sexual abuse		
During the past year	9	6
Ever*	29	20
Physical or sexual abuse		
During the past year	25	18
Ever*	65	46

*N = 142 due to a missing case.

43% had experienced some form of physical abuse in their lifetime. One-fifth of the women (20%, *n* = 29) reported that a spouse or boyfriend had physically or verbally coerced them into having “unwanted or uninvited” sexual activity during their lifetime. Nearly one-half of the women (46%, *n* = 65) reported at least one type of IPV experience during their lifetime.

Twenty-one participants (15%) reported physical abuse by a partner during the past year. Nine women (6%) experienced sexual abuse during the past year. When physical and sexual abuses were combined, 25 respondents (18%) indicated one or more such occurrences during the past year.

Only one participant mentioned that she came to the ED on the day of the interview due to being injured by her intimate partner, and two indicated that they sought care because of illness or stress related to fears, threats, or violent behavior from their partners. Nevertheless, 28 women (20%) claimed to have visited an ED at least once in their lives because of injuries caused by a boyfriend or husband or because of illness or stress related to fears and threats due to his violent behavior. Almost two-thirds of the women who reported experiencing IPV (62%, *n* = 41) indicated that their partner was under the influence of drugs or alcohol at the time of the abuse.

The association between substance abuse and IPV

Table 4 demonstrates the results of *t* tests comparing AUDIT scores and DAST scores between abused and nonabused women. Those who were physically abused by their partner during the past year (15%, *n* = 21) were more likely than nonabused women (85%, *n* = 122) to report higher scores on the AUDIT (4.9 vs. 2.4) and the DAST (3.0 vs. 1.3) at the 99% significance level. Sexually abused women were more likely than their counterparts to have higher AUDIT scores (6.4 vs. 2.5) at the 99% significance level. Because the number of women who reported sexual abuse was small, the result of no association between sexual abuse and drug abuse should be viewed cautiously.

Table 4. Relationship between substance abuse and intimate partner violence during the past year ($N = 143$)

	<i>n</i>	AUDIT*	DAST
		Mean (SD)	Mean (SD)
Physical abuse			
Abused	21	4.9 [†] (5.8)	3.0 [†] (2.7)
Not abused	122	2.4 (3.3)	1.3 (2.4)
Sexual abuse			
Abused	9	6.4 [†] (7.1)	2.9 (3.8)
Not abused	134	2.5 (3.4)	1.5 (2.4)
Physical or sexual abuse			
Abused	25	4.8 [†] (5.8)	2.8 [†] (2.8)
Not abused	118	2.3 (3.2)	1.3 (2.4)

* $N = 142$ due to a missing case.[†] $p < .01$.

When physical and sexual abuse were combined, abused and nonabused women differed significantly ($p < .01$) for both the AUDIT (4.8 vs. 2.3) and the DAST (2.8 vs. 1.3) scores.

We examined partial correlations to explore the association between substance use and IPV further (Table 5). The partial correlation coefficients were computed by excluding those cases that had missing values in one of the variables pairwise so that we could use as much of the data as possible. The results essentially were identical to the results of partial correlations with listwise deletion. The first row in the table shows zeroth-order correlations between IPV and AUDIT or DAST scores. IPV and AUDIT score demonstrated a strong linear relation ($r = .268$, $p < .001$). The linear association between IPV and DAST score was weaker but still remained significant ($r = .177$, $p < .035$). The AUDIT and the DAST also were significantly related ($r = .319$, $p < .000$).

The second row in Table 5 shows the partial correlation between IPV and AUDIT score after controlling for the effect of the DAST score. The association was significant ($r = .227$, $p < .007$). The partial correlation coefficient remained significant even after controlling for four confounding variables in addition to the DAST ($r = .218$, $p < .011$, see the third row in Table 5). These four variables (years of education, homelessness

in the past year, living with someone with a drug/alcohol problem, and childhood abuse combined) were selected because they were significantly related to at least one of the three main variables of our interest in the bivariate analyses.

While the association between IPV and alcohol use stayed significant in the multivariate analyses, the association between IPV and drug use did not. As the fourth row in Table 5 indicates, the frequency of combined IPV and the DAST were no longer significantly associated after controlling for the AUDIT score ($r = .100$, $p < .239$). The linear association also became nonsignificant when controlling for the four confounding variables ($r = .051$, $p < .554$).

Discussion

As in other studies in EDs, this study found high prevalence of IPV among women seeking emergency care. Substance abuse was more prevalent among battered women than their counterparts. Using bivariate analysis, abused women were more likely than nonabused women to report higher scores on the AUDIT and the DAST, although the DAST scores of sexually abused women were not significantly different from those of their counterparts. Using multivariate analysis, women who had a higher level of alcohol problems were much more likely than women without alcohol problems to report IPV, after adjusting for the confounding variables. However, women who had more drug problems were not significantly different from those who did not report IPV, after adjusting for alcohol use. This may indicate that, for women visiting the ED, alcohol rather than drug use was related to incidents of IPV. The significant association between drug use and IPV, which we found at the bivariate level, could be, in fact, mediated by alcohol use.

While there were differences in the DAST and AUDIT scores depending on the presence of violence in the preceding year, the mean scores for all groups were below the thresholds that indicate a problematic level. This may indicate that substance or alcohol use may be an indirect reflection of other dynamics affect-

Table 5. Partial correlation analysis between intimate partner violence (IPV) and substance abuse ($N = 143$)

Variables controlled	Correlation coefficients for:		
	AUDIT & IPV*	DAST & IPV*	AUDIT & DAST
None (zeroth-order)	.268 (df = 140, $p < .001$)	.177 (df = 141, $p < .035$)	.319 (df = 140, $p < .000$)
DAST	.227 (df = 139, $p < .007$)	—	—
DAST and other confounding variables [†]	.218 (df = 134, $p < .011$)	—	—
AUDIT	—	.100 (df = 139, $p < .239$)	—
AUDIT and other confounding variables [†]	—	.051 (df = 134, $p < .554$)	—

Correlation coefficients, degrees of freedom (df), and two-tailed significances are reported in the table.

*The frequency of physical and sexual IPV combined during the past year.

[†]Other confounding variables are the years of education, homelessness in the past year, living with someone with a drug/alcohol problem, and physical and sexual childhood abuse combined.

ing the individual experiencing abuse. For example, many victims of IPV described their batterers as having substance abuse problems. As reported in the analysis, nearly two-thirds of the women with a history of partner abuse indicated that their most recent abusive partner was under the influence of drugs or alcohol at the time of the last incidence of physical or sexual violence. This finding is supported by other studies in which approximately half of the men who perpetrate IPV against their female partners are reported to have substance abuse problems.^{19,20}

Because of the sampling strategy in this study, care should be taken before generalizing the results of this study to all women receiving care in the ED. Although it might have been helpful to interview a small sample of “after hours” lower triage level patients to see if there were any differences in the magnitude of the reported effects, it was not possible to include any high triage patients in our sample because of the nature of their presentation in the ED. High triage patients often need advanced life support, have gunshot wounds, or are victims of other types of trauma such as automobile accidents. We also only enrolled women who were sexually active within the preceding 90 days because the parent study’s major emphasis was on the relationship between IPV, substance abuse, and sexual risks for HIV transmission among sexually active women. Finally, no data are available regarding women who refused to participate in this study.

Interpretation of results should also consider potentially relevant issues not fully addressed in the measures or analyses used in this study, such as severity and chronicity of IPV. Macro-level variables such as neighborhood violence, access to resources, and unemployment rates in the community may play a confounding role in the observed relationships between substance abuse and IPV victimization. Neighborhood violence, access to resources, and unemployment rates may play a confounding role. Lastly, due to the cross-sectional design of the study, we could not fully explore the temporal and causal relationship between the woman’s substance abuse and her partner’s violence.

Implications for Intervention

Understanding the relationship between IPV and the victim’s substance use is important for the development of public policies, treatment, and prevention strategies to address the constellation of problems encountered by low-income, minority women who visit EDs. Such strategies may also reduce future victimization and diminish the severity of drug use among these women. To avert IPV against women who use alcohol and drugs, it is essential that violence prevention approaches include education that sensitizes both men and women and delineates how drug and alcohol abuse heightens the risk of IPV. Thus, ED

patients must be made aware of the scope of violence against women and resources available for those who are at risk of violence and substance abuse. Information can be disseminated via the media, such as showing videos in the ED waiting area and distributing brochures and other printed material throughout the hospital and at community “street fairs.”

As physical or emotional discomfort and crisis usually precipitate ED visits, those seeking care expect to reveal their subjective view of the presenting condition. By sensitizing ED patients about IPV and substance abuse at the time of presentation, an opportunity is provided to disclose experiences of abuse or to attribute aspects of their presenting condition to drug and alcohol use. Screening assessments for IPV and substance abuse are crucial and must become an integral part of patient treatment protocols. Such opportunities will let women know that speaking to a health care provider in an ED about the IPV or drug abuse can be the first step to accessing help. Consequently, medical staff must be trained to identify signs of IPV and to document their findings in the patient’s chart. Counseling should be provided in crisis situations, especially when the patient needs a safety plan and referrals to cope with or escape an abusive situation. Medical staff should also be trained in referral strategies and community resources for domestic violence and substance abuse services. With the recent trend in impoverished communities of using the ED as the setting for primary health care, ED visits provide a valuable moment to intervene in an effective, appropriate, and necessary manner. The importance of this opportunity to provide comprehensive assessment, service, and care for hard-to-reach individuals experiencing isolation, disempowerment, stigma, and other adverse consequences of IPV and substance use can not be understated.

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References

- [1] Plichita SB. The effects of woman abuse on health care utilization and health status: a literature review. *Women's Health Issues* 1992;2:154–163.
- [2] Tilden VP, Shepherd P. Increasing the rate of identification of battered women in an emergency department: use of a nursing protocol. *Res Nurs Health* 1987;10:209–215.
- [3] Abbot J, Johnson R, Koziol-McLain J, Lowenstein SR. Domestic violence against women: incidence and prevalence in emergency department populations. *JAMA* 1995;273:1763–1767.
- [4] Roberts GL, O’Toole B, Raphael B, Lawrence JM, Ashby R. Prevalence study of domestic violence victims in an emergency department. *Ann Emer Med* 1996;27:747–753.
- [5] Goldstein P, Bellucci P, Spunt B, et al. *Female Drug Related Involvement in Violent Episodes (FEMDRIVE)*. Rockville, MD: National Institute on Drug Abuse; 1988.

- [6] Kessler R, Sonnega A, Bromet E, Hughes M, Nelson C. Post-traumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry* 1995;52:1048–1060.
- [7] Burnam MA, Stein JA, Golding JM, et al. Sexual assault and mental disorders in a community population. *J Consult Clin Psychol* 1988;56:843–850.
- [8] Gilbert L, El-Bassel N, Rajah V, et al. The converging epidemics of mood-altering-drug use, HIV, HCV, and partner violence: a conundrum for methadone maintenance treatment. *Mt Sinai J Med* 2000;67:452–464.
- [9] Miller BA, Downs WR, Gondoli DM, Keil A. The role of childhood sexual abuse in the development of alcoholism in women. *Violence Vict* 1987;2:157–172.
- [10] Polusny M, Follette V. Long-term correlates of child sexual abuse: theory and review of the empirical literature. *Appl Prev Psychol* 1995;4:143–166.
- [11] Kilpatrick DG, Acierno R, Resnick HS, Saunders BE, Best CL. A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *J Consult Clin Psychol* 1997;65:834–837.
- [12] Ratner PA. The incidence of wife abuse and mental health status in abused wives in Edmonton, Alberta. *Can J Public Health* 1993;84:246–249.
- [13] Bohn MJ, Babor TF, Kranzler HR. The Alcohol Use Disorders Identification Test (AUDIT): validation of a screening instrument for use in medical settings. *J Stud Alcohol* 1995;56:423–432.
- [14] Congrave KM, Saunders JB, Reznik RB. Predictive capacity of the AUDIT questionnaire for alcohol-related harm. *Addiction* 1995;90:1479–1485.
- [15] El-Bassel N, Schilling RF. Psychometric properties of the DAST among a working population. *Res Soc Work Pract* 1997;7:99–114.
- [16] Skinner HE, Goldberg A. Evidence for a drug dependence syndrome among narcotic users. *Br J Addictions* 1986;81:479–484.
- [17] El-Bassel N, Ivanoff A, Schilling RF, Gilbert L, Borne D, Chen D. Preventing HIV/AIDS in drug-abusing incarcerated women through skills-building and social support enhancement: preliminary outcomes. *Soc Work Res* 1995;19:131–141.
- [18] Russell D. The incidence and prevalence of intra-familial and extra-familial sexual abuse of female children. *Child Abuse Negl* 1983;7:133–146.
- [19] Eberle P. Alcohol abusers and non-users: a discriminant analysis of differences between two subgroups of batterers. *J Health Soc Behav* 1982;23:260–271.
- [20] Pernanen K. Experiences of violence and their associations with alcohol use in the general population of a community. Philadelphia: Am Soc Crim; 1979.