

**Predictive Models of Domestic Violence and Fear of Intimate Partners Among Migrant and Seasonal Farm Worker Women.****Predictive Models of Domestic Violence and Fear of Intimate Partners Among Migrant and Seasonal Farm Worker Women****Nikki R. Van Hightower,<sup>1,4</sup> Joe Gorton,<sup>2</sup> and Casey Lee DeMoss<sup>3</sup>**

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*Despite a growing body of knowledge concerning family abuse, there is little research focusing on domestic violence in rural settings. Likewise, there is a paucity of research on family abuse among low-income and racial/ethnic minorities who reside in rural areas. This study examined the prevalence of domestic abuse experienced by low-income, predominantly Latina farm worker women. Using logistic regression analysis, we analyzed factors that predict victimization and the influence of those factors on women's fear of their intimate partners. Survey data were collected from 1001 adult female patients of 11 migrant farm worker health care clinics in nine states. Among the study participants, 19% had been physically or sexually abused by a husband, boyfriend, or companion. The strongest predictors of domestic abuse were drug/alcohol use by the respondent's partner, pregnancy, and migrant status. The factors that most influenced respondents' fear of their intimate partners were abuse and frequency of abuse. The article concludes by discussing implications of the study for domestic violence intervention, treatment, and research in rural settings.*

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**KEY WORDS:** domestic violence; farm workers; rural; migrant; Latina.

During the last 20 years, domestic violence has been the focus of rising public awareness. Social scientists, legal and medical professionals, and public policy experts are producing a growing body of research concerning physical and sexual abuse within families. Law enforcement officials are

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better trained and more responsive than in the past (Bourg and Stock, 1994; Roberts, 1996). A grassroots "shelter movement" has resulted in a nationwide network of housing and counseling services for domestically abused women and their children (Dziegielewski *et al.*, 1996). Within the last several years, health care institutions have undertaken a concerted effort to improve domestic violence screening and treatment practices, and training of health care personnel (Schorstein, 1997).

Despite this progress, there has been little research concerning domestic violence in rural areas. Specifically, low income and racial/ethnic minorities who live in rural settings are discussed rarely in the family violence research literature.

We analyzed domestic violence among patients who received medical treatment at 11 federally funded migrant health care clinics in nine states. These clinics are mandated by federal law to address the unique health care needs of migrant and seasonal farm workers (Migrant Health Act of 1962, 1988). Our analysis examined prevalence of victimization and the degree to which various social and demographic factors predicted domestic violence and women's fear of their intimate partners.

## BACKGROUND

A considerable amount of anecdotal evidence and several family violence studies suggest that, for domestic violence victims who suffer the greatest poverty, isolation, language, or other cultural barriers, domestic violence services are often unavailable or inadequate (Gagne, 1992; Norton and Manson, 1995; Pinn and Chunko, 1997; Websdale, 1997). This underserved population includes low-income earners, residents of rural areas, immigrants, farm workers, and non-English-speaking women. In response to concerns voiced by migrant health clinicians about domestic violence injuries among migrant and seasonal farm worker women, the Migrant Clinicians Network (MCN),<sup>5</sup> in 1994, established the Practice-Based Research Network (PBRN) to document the extent of domestic violence among farm worker women. The PBRN addressed the problem of family violence by documenting prevalence of domestic abuse and promoting improved screening and intervention for farm workers. By 1997, migrant farm worker health care clinics in Michigan, New York, Colorado, Wisconsin, Pennsylvania, Iowa, Washington, Texas, and North Carolina were participating in the PBRN domestic violence program. This study reports analysis of data gathered during implementation of that program.

<sup>5</sup>MCN provides networking, education, accreditation, and research services to clinics that serve migrant and seasonal farm workers.

### Literature Review

Previous researchers have found that domestic violence occurs among all racial, ethnic, and socioeconomic groups (Bachman and Saltzman, 1995; Centerwall, 1984; Straus *et al.*, 1980; Walker, 1984). Analyses also have shown that residents of urban and rural areas experience similar rates of family abuse (Bachman and Saltzman, 1995; Websdale, 1997; Zawitz, 1994). Despite such findings, there is little reliable information about factors that contribute to domestic violence among impoverished minorities and residents of rural areas. For example, a recent study of health care interventions in domestic violence cases revealed "a paucity of research on domestic violence in minority and economically disadvantaged families" (Pinn and Chunko, 1997, p. 65). Likewise, Websdale's (1997) recent ethnography of rural domestic violence argues that researchers have largely ignored woman battering in rural communities. Our review of social science literature found only one peer-reviewed journal article (Gagne, 1992) and one book (Websdale, 1997) that focus explicitly on the problem of rural domestic violence.

The extant research concerning prevalence of domestic violence among marginalized segments of society suggests that victimization among those populations is comparable to rates of domestic violence that occur among the mainstream population. A recent study of immigrant women in California found that 25 to 35% had been victims of domestic abuse (Hogeland and Rosen, 1991). Anderson's (1993) analysis of victimization among immigrant Latinas in the Washington, DC, area revealed that domestic violence against them increased after they immigrated to the United States. Additionally, Anderson (1993) found that rate of battering was highest among undocumented or conditional resident Latinas who were married to citizens of the United States or lawful permanent residents.

Research analyses that compare prevalence of domestic violence among different racial and ethnic populations have produced mixed findings. In Neff and co-workers' (1995, p. 1) study of self-reported spousal violence among Anglos, Blacks, and Mexican Americans, the authors found "little consistent evidence to suggest greater violence propensity among Mexican American than Anglo respondents." In contrast to that finding, the Black women included in their analysis were significantly more likely to have suffered spousal violence than were Anglo respondents (Neff *et al.*, 1995). Torres' 1991 study of women living in domestic violence shelters in the United States found no differences in severity or type of assault suffered by Mexican American women and Anglo women. However, the analysis noted considerable differences between these groups as to their conceptualization of domestic violence (Torres, 1991). Mexican-American women, according to Torres (1991), were more likely than Anglo women

to view certain levels of abuse as normal and acceptable. McFarlane *et al.*, (1995) analyzed domestic violence among an ethnically stratified sample of 1203 impoverished, pregnant women who lived in urban settings. Their analysis found that Anglo and African American respondents experienced higher rates of abuse than Hispanic respondents and that abuse suffered by Anglo women was more severe than the abuse inflicted against African Americans and Hispanics (McFarlane *et al.*, 1995).

Pinn and Chunko's (1997) study of medical practitioners' roles in developing culturally sensitive interventions in domestic abuse cases suggests that low-income women and those who live in isolated conditions (i.e., do not own telephones, reside in remote areas, do not speak English) are at highest risk for all types of violence. In addition, women in these circumstances lack access to appropriate community-based services designed to treat and prevent family abuse (Pinn and Chunko, 1997). Pinn and Chunko (1997) also argue that low income women who are members of racial or ethnic minorities have been underrepresented in past studies of domestic violence.

Rural residency also is an isolating factor that influences family abuse and access to domestic violence services. In his analysis of police responses to domestic violence in rural settings, Websdale (1997) concluded that (a) physical isolation associated with the rural milieu provides batterers with opportunities to engage in abusive behavior, (b) patriarchal attitudes of rural law enforcement officers impede timely and effective responses to domestic violence calls, and (c) rural battered women encounter acute difficulties in using potentially supportive domestic violence services. Gagne's (1992) case study of spousal abuse and social control of women in a rural Appalachian community found that the culture and social structure of that setting facilitated family abuse. Within that community, a patriarchal social structure, cultural norms that objectified and devalued women, and geographic isolation established a social context that permitted men to exercise violent social control over women (Gagne, 1992).

The above studies have made important contributions to our understanding of domestic violence against women who live on the margins of American society. However, researchers have not yet focused on spousal abuse of impoverished minority women who live in rural areas. Therefore, our study seeks to build upon previous research by analyzing prevalence of domestic violence among low-income, predominantly Latina farm worker women. We also examined the influence of social factors such as drug/alcohol use, marital status, race, migrant status, pregnancy, and age on the domestic abuse of these women and their fear of intimate partners. In addition, we discuss implications for future research and domestic violence interventions by rural clinicians.



Our analysis sought to develop an empirically based parsimonious model that can be used to predict spousal violence among migrant and seasonal farm worker women. The dependent variable, domestic abuse, combines the variables of physical assault and forced sexual contact. The major independent variable in our analysis was respondents' farm worker status (i.e., migrant or seasonal). Controls included in the study consisted of variables that prior research suggests are linked to intimate violence. Because the extant research suggests a high coincidence of substance abuse and intimate violence (Neff *et al.*, 1995; Bennett, 1995; Norton and Manson, 1995; Brookoff *et al.*, 1997), we included a control for drug/alcohol use by the respondents' spouses. Several previous analyses of domestic assault have examined the relationship between various demographic factors and intimate violence (Julian and McKerry, 1993; Neff *et al.*, 1995; Grandin and Lupri, 1997; Brookoff *et al.*, 1997; Acierno *et al.*, 1997). Following these studies, the demographic controls included in our study are race/ethnicity, age, and marital status. A recent metaanalysis of violence against pregnant women (Gazmararian *et al.*, 1996) and previous research focusing on physical abuse during pregnancy (Amaro *et al.*, 1990; McFarlane *et al.*, 1992, 1995) indicate that pregnancy may increase the risk of domestic violence. Therefore, we included a control for pregnancy. To explore further the influence of family characteristics, we also controlled for whether respondents had children.

## METHOD

### Data Collection

Not surprisingly, the same characteristic that increases vulnerability of certain groups to the dangers of domestic violence—isolation from mainstream society—also makes them exceedingly difficult to research. A place of access that holds promise for conducting research on domestic violence among hard-to-reach populations in rural areas is the health service system, particularly rural clinics that specialize in underserved populations. The sample used in this analysis was selected from the adult female patient populations of 11 nonprofit clinics in nine states that receive federal funding to serve migrant and seasonal farm workers.

During several visits to clinic sites, researchers representing the MCN Practice-Based Research Network trained clinic staff in basic issues related to domestic violence and in the administration of the questionnaire. All of the clinic staff who participated in the study received 2 to 4 hr of training.

In addition, procedures were established for protecting respondents' confidentiality and for managing the data collected at each site.

Because the safety of the survey respondents was of primary concern, the population sample was selected on a convenience basis. That is, only adult women who were not in the company of a male partner were invited to participate in the study. After receiving informed consent, bilingual clinic staff conducted face-to-face interviews with each respondent in either English or Spanish, depending on the preference of the respondent. Interviewers recorded the respondent's answers on the survey instrument. All of the interviews were confidential.

### Sample Characteristics

The sample for this study was drawn from a population of migrant and seasonal farm worker women. Migrant farm workers are laborers who leave their permanent place of residence to find employment in agriculture. Seasonal farm workers are laborers employed in agriculture who do not leave their permanent residence to find work. Three-fifths of farm worker households have incomes below the federal poverty level, and only one-fourth of farm workers have non-farm work earnings (Mines *et al.*, 1997). Likewise, low incomes are common among agricultural laborers who seek medical assistance from the migrant health care clinics that participated in this study. According to the U.S. Migrant Health Program, 86% of migrant health center patients have family incomes that are below 200% of the federal poverty line and 34% are Medicaid recipients (U.S. Bureau of Primary Health Care, 1997).

Table I presents the descriptive characteristics of the study sample. A sample of 1001 adult women completed the survey instrument. Eighty-three percent ( $n = 830$ ) were Latina, 4% ( $n = 40$ ) were Anglo, 1% ( $n = 12$ ) were African American, and 3% ( $n = 26$ ) were Haitian. One Native American was included in the sample. Nine percent ( $n = 92$ ) of the women did not report their ethnicity. Respondents' ages ranged from 18 to 72, with a mean age of 30 ( $SD = 11.1$ ). Fifty-six percent ( $n = 556$ ) of the sample were pregnant, 38% ( $n = 379$ ) were not pregnant, and 7% ( $n = 66$ ) did not respond to the survey item concerning pregnancy. Most of the women in the study, 66% ( $n = 662$ ), were legally married or cohabitating with a male partner. Twenty-nine percent ( $n = 294$ ) were single, widowed, divorced, or separated, and 5% ( $n = 45$ ) did not report their marital status. Thirty-three percent ( $n = 333$ ) reported that they were migrant farm workers, and 36% ( $n = 364$ ) reported that they were seasonal farm workers.

Approximately 30% of the sample ( $n = 304$ ) did not identify themselves

Table I. Descriptive Characteristics of the Study Sample

Characteristics	Percentage	Frequency
Age of respondents <sup>a</sup>		
18-27	47.7	477
28-37	27.0	270
38-47	11.0	110
48-57	4.8	48
58-67	2.9	29
68-77	.3	3
Missing	6.4	64
Race/ethnicity		
Latina and non-White <sup>b</sup>	86.8	869
Anglo	4.0	40
Missing	9.2	92
Marital status		
Married or cohabitating	66.1	662
Single, divorced, separated, widowed	29.4	294
Missing	4.5	45
Children		
No	15.0	150
Yes	78.6	787
Missing	6.4	64
Pregnant		
No	37.9	379
Yes	55.5	556
Missing	6.6	66
Migrant status		
Migrant	33.3	333
Seasonal	36.4	364
Missing	30.4	304
Drug/alcohol use by spouse		
No	63.8	639
Yes	34.0	340
Missing	2.2	22
Abused (physical abuse or forced sex)		
No	76.3	764
Yes	19.0	190
Missing	4.7	47

<sup>a</sup>Mean age = 30.1<sup>b</sup>Eight hundred thirty Latinos, 12 African Americans, 26 Haitians, and 1 Native American.

as either migrant or seasonal workers. Our debriefing of the clinic staff who serve the sample population suggest two explanations for this missing data. First, some respondents might have perceived the question as being related to their immigration status and therefore were reluctant to provide an answer. Second, if respondents did not fit neatly into either category, they chose not to answer the question. For example, some respondents were both seasonal and migrant workers, while others worked in several different jobs that included agricultural labor.

### Survey Instrument

Circumstances within the clinics, (e.g., heavy patient loads, limited personnel, and tight time schedules), the safety of the women, and potential psychological discomfort of the patients called for a research instrument that was brief and required little time for completion. Given the constraints and the interest in obtaining generalizable results, the PBRN researchers used the MCN Domestic Violence Assessment Form as a survey instrument.<sup>6</sup> This instrument has demonstrated a high degree of internal reliability (Rodriguez, 1995). To facilitate interviews with non-English-speaking respondents, the survey was printed in Spanish on one side of the page and in English on the other side.

The Domestic Violence Assessment Form elicits basic demographic information and asks the following questions: (1) Does your husband/boyfriend/companion use alcohol or drugs? (2) During the last year, have you been physically abused (hit, kicked, pushed) by another person? (3) Have you been forced to have sexual relations in the last year? and (4) Are you afraid of your husband/boyfriend/companion/relative, or other person threatening you? If the respondent answered "yes" to Question 1, she was asked if her husband/boyfriend/companion abused her when he was drunk or using drugs. If she answered "yes" to Question 2 or 3, she was asked if the abuser was her husband, boyfriend, companion, ex-husband, relative, or other. If respondents gave an affirmative response to Question 2 or 3, they also were asked to provide the total number of abuse incidents and the last time the abuse occurred. The questionnaire included a full anterior and posterior body map for charting injuries and designating areas of abuse.

### Analysis of Data

The Statistical Package for the Social Sciences (SPSS) for Windows was used to analyze the data collected for this study. Because the dependent variable in this study is a dichotomous measure of spousal abuse, logistic regression analysis was used to predict the likelihood of respondents being victimized. According to Homer and Lemeshow (1989, p. 1), "The methods employed in an analysis using logistic regression follow the same general principles employed in linear regression." However, linear regression models of the influence of independent variables on a dichotomous dependent

<sup>6</sup>The MCN Domestic Violence Assessment Form was originally developed by Dr. Judith McFarlane, College of Nursing, Texas Women's University, Houston. The form was adapted by MCN for use in a migrant health center setting and used with permission.



variable frequently produce biased estimates (Menard, 1995). The logistic regression programs included in statistical analysis software such as SPSS perform an automated transformation of the variables in the model to produce unbiased estimates. Therefore, we used logistic regression analysis to assess the relative impact of the independent variables on the likelihood of experiencing spousal abuse.

The significance of the contribution of each independent variable may be seen in the Wald statistic (the ratio of the regression coefficient  $B$  to an estimate of its standard error). Regression coefficients were considered statistically significant if  $p < .05$  or if the Wald statistic exceeded a critical value of 2 (Hosmer and Lemeshow, 1989). The  $\exp(B)$  for each logistic regression coefficient gives the logs-odds ratio for the predictor variables (Menard, 1995). Odds ratios greater than 1 indicate an increase in the odds of being abused and odds ratios less than 1 indicate a decrease in the odds of being abused.

The dependent variable, domestic abuse, combines the variables physical assault and forced sexual contact (physical assault or forced sexual contact = 1, no physical assault or forced sexual contact = 0). The major independent variable in our analysis was a dichotomous measure of respondents' farm worker status (migrant = 1, nonmigrant = 0). As stated earlier, controls included in the models consisted of variables suggested by prior domestic violence research. We included controls for drug/alcohol use by respondents' spouses (drug/alcohol use = 1, no drug/alcohol use = 0), race/ethnicity (Latina and non-White = 1, White = 0), age (number of years old), marital status (married or cohabitating = 1, single, divorced, separated, or widowed = 0), pregnancy (pregnant = 1, not pregnant = 0), and children (children = 1, no children = 0).

## RESULTS

### Rates of Domestic Violence

Among the 1001 study participants, 19% ( $n = 190$ ) reported that they had been physically assaulted or sexually abused during the last year. Husbands were the sole perpetrators in 32% of the reported cases of abuse. Boyfriends were named in 20%. Both husbands and boyfriends were perpetrators in 16% of the cases.<sup>7</sup> Other abusers included companions (10%), ex-

<sup>7</sup>The questionnaire did not request detailed data about respondents' intimate relationships. It is possible that during the year in question some of the women might have been abused by a boyfriend before, during, or after an abusive marriage.

husbands (5%), and family members (18%). Forced sexual contact was reported by 46 women, or one-fourth of those who were abused. Every respondent who experienced forced sexual contact also had been physically abused. Husbands were the main perpetrators of sexual abuse (57%), followed by companions (13%), boyfriends (13%), and ex-husbands (8%). During the year in question, the number of abuse incidents (physical and sexual) reported by respondents ranged from 0 to 70, and the average number of incidents was 13.5.

### Multivariate Regression Analysis

Table II presents the results of the logistic regression analysis in which abuse is the dependent variable. The  $\exp(B)$  for each logistic regression coefficient gives the logs-odds ratio for the predictor variables (Menard, 1995). Odds ratios greater than 1 indicate an increase in the odds of being abused and odds ratios less than 1 indicate a decrease in the odds of being abused. The model fit well (model  $\chi^2 = 102.22$ ,  $df = 7$ ,  $p < .000$ ) and correctly classified 80.58% of the cases. After controlling for age, race/ethnicity, marital status, and whether the respondent had children, three variables were significantly related to the probability that the respondents had been abused during the preceding 12 months. The logs-odds ratio for drug/alcohol use shows that women with husbands, boyfriends, or companions who used drugs or alcohol were approximately six times more likely to be victimized than women with spouses, boyfriends, or companions who abstained from drug/alcohol use ( $p < .000$ ).

In contrast to drug/alcohol use, pregnancy reduced the probability of victimization. By a factor of .35, or 65% ( $p < .0001$ ), pregnancy decreased respondents' chances of being abused. Measures of statistical significance for respondents' migrant status (Wald = 2.54,  $p < .1108$ ) suggest that this

**Table II.** Logistic Regression Predicting Physical or Sexual Abuse

Predictor variable	<i>B</i>	Wald	Sig.	<i>R</i>	$\exp(B)$
Drug/alcohol use	1.78	56.77	.0000	.30	5.94
Pregnancy	-1.04	15.67	.0001	-.15	.35
Age	.01	.17	.6817	.000	1.01
Children	.19	.14	.7092	.000	1.20
Migrant status	.39	2.54	.1108	.030	1.47
Race/ethnicity	.26	.16	.6934	.000	1.30
Marital status	.03	.01	.9125	.000	1.03
Model $\chi^2$	102.22		.000		
df	7				

variable also had a statistically significant impact on the likelihood of being abused. The odds ratio for migrant status indicates that by a factor of 1.47, or 47%, migrant farm worker women were more likely to be abused than seasonal farm worker women. To address concerns related to the cases with missing data for the migrant-seasonal variable, we created logistic regression models that included a dummy variable that measured the influence of the missing data on the likelihood of abuse. The dummy variable for the model was operationalized as either migrant/seasonal (coded 0) or as missing (coded 1). We included the variable in a model that controlled for respondents' migrant-seasonal status and a separate model that excluded the migrant-seasonal variable. In the former, migrant status continued to have a positive and statistically significant effect on victimization. In both models, the missing data failed to produce a statistically significant effect on abuse. These findings indicate that the missing data do not reflect respondent characteristics that influence the likelihood of abuse or that influence the effect of migrant status on victimization.

Stepwise regression procedures were employed to find the most parsimonious model for predicting respondents' victimization. Using both forward and backward stepwise regression methods, the model that best predicted spousal abuse was one that excluded respondents' marital status from the full model. However, the improvements over the full model were trivial. The reduced model (model  $\chi^2 = 102.207$ ,  $df = 6$ ,  $p < .000$ ) classified 80.93% of the cases, compared to 80.58% correctly classified by the full model.

Because fear of violence is often a form of abuse (i.e., emotional abuse), we developed a second logistic regression model with respondents' fear of their intimate partners as the dependent variable. Table III presents the results of the logistic regression analysis for that model. The chi-square

**Table III.** Logistic Regression of Factors Predicting Respondents' Fear of Partner

Predictor variable	<i>B</i>	Wald	Sig.	<i>R</i>	Exp( <i>B</i> )
Drug/alcohol use	.75	2.93	.0870	.05	2.12
Pregnancy	-.17	.13	.7196	.000	.85
Age	-.01	.06	.8135	.000	.99
Children	-.78	.98	.3227	.000	.46
Migrant status	-.30	.48	.4897	.000	.74
Race/ethnicity	.24	.03	.8534	.000	1.27
Marital status	-.02	.00	.9575	.000	.97
Abuse	3.84	40.84	.0000	.32	46.38
Frequency of abuse	.09	10.03	.0015	.14	1.10
Model $\chi^2$	207.09		.000		
df	9				

statistic (model  $\chi^2 = 207.09$ ,  $df = 9$ ,  $p < .000$ ) indicated a strong fit of the model, correctly classifying 92.36% of the cases.

Not surprisingly, the two variables that most influenced fear were whether the respondent had been abused and frequency of abuse. The logs-odds ratio for abuse shows that victimized women were 46.38 times more likely to be fearful of their partner than women who were not abused ( $p < .000$ ). Frequency of abuse increased respondents' fear, by a factor of 1.10, or 10% ( $p < .0015$ ), for each incident of abuse. Given the mean frequency of abuse among victimized women (13.5 incidents), abused respondents on average were 14.85 times more likely to be fearful than women who were not abused. The probability that drug/alcohol use influences respondents' fear did not achieve a  $p < .05$ . However, the Wald statistic equaled 2.93. Therefore, we concluded that this variable had a meaningful impact on respondents' fear of their husband, boyfriend, or companion. The logs-odds ratio for this variable indicates that women whose partners used drugs or alcohol were more than twice as likely to be fearful than women whose partners were abstainers.

## DISCUSSION AND CONCLUSIONS

This study examined prevalence of domestic abuse experienced by low income, predominantly Latina farm worker women, factors that predict victimization, and the influence of those factors on women's fear of their intimate partners. Among the study participants, 19% had been physically or sexually abused by a husband, boyfriend, or companion. The strongest predictors of domestic abuse found in this study were drug/alcohol use by respondent's partner, pregnancy, and migrant status. The factors that most influenced respondents' fear of their intimate partners were abuse, frequency of abuse, and partners' use of drugs or alcohol.

### Prevalence of Spousal Abuse

The observed rate of spousal abuse found in our sample (19%) is comparable to domestic violence rates present in the general population. For example, this rate of domestic violence is similar to the 17% rate of domestic violence injuries reported in a recent nationwide U.S. Department of Justice survey of emergency room admissions (Rand, 1997). These data also are consistent with previous studies that found similar rates of domestic violence in urban and rural settings (Bachman and Saltzman, 1995; Zawitz, 1994). However, cultural factors that discourage Latina women from ac-



knowledging spousal abuse (Torres, 1991) and from reporting domestic violence (McFarlane *et al.*, 1997; Bonilla-Santiago, 1996), suggest that the victimization rate found among our study sample underestimates the actual amount of spousal abuse suffered by women who reside in rural areas. According to the U.S. Census Bureau (1995), more than 24% of U.S. residents (approximately 60 million people) live in rural areas. Generalizing from our prevalence statistics, approximately one out of five women living in rural areas is likely to be a victim of spouse abuse. For this reason, we conclude that spousal abuse in rural America should be recognized and treated as a major public health problem.

### Factors that Predict Domestic Abuse

Women in this study with intimate partners who used drugs or alcohol were significantly more likely to be abused than respondents whose intimate partners were abstainers. The direct influence of drug/alcohol use on spousal abuse was present regardless of respondents' age, race, migrant status, and whether they were pregnant or had children. These findings are consistent with a large volume of research that documents the positive relationship between drug/alcohol use and domestic violence. However, we do not conclude from these findings that drug or alcohol use causes domestic violence. Recent analyses of alcohol-related battering suggest several possible explanations for the influence of drug/alcohol use on spousal abuse. Conner and Ackerly (1994) tentatively concluded that alcohol produces physiological and cognitive changes and interacts with frustration to produce aggressive behavior manifested in alcohol-related battering. Other researchers argue that use of drugs or alcohol may facilitate the onset and continuation of violent attacks by intimate partners. For example, Zubretsky and Digirotama (1996, p. 224) argue that alcohol use enables violent partners to rationalize domestic abuse:

Batterers, who have not been held accountable for their abusive behavior in general, find themselves even less accountable for battering perpetuated when they are under the influence of alcohol. The alcohol provides a ready and socially acceptable excuse for their violence.

Our analysis suggests that migrant and seasonal farm worker women who were pregnant were less likely to be victims of domestic violence than those who were not pregnant. Given the paucity of research pertaining to the influence of pregnancy and nonpregnancy on partner violence (as opposed to research focusing on prevalence of abuse among pregnant women), we can only speculate about possible relationships between pregnancy and abuse. Because the regression models used in our analysis do not specify

a temporal ordering of pregnancy and abuse there are two contrasting possibilities. First, becoming pregnant might actually lessen the probability of victimization of farm worker women. This could occur if abusers have internalized pronatalist values that mediate against victimizing women who are pregnant. Second, a rational actor model would suggest that farm worker women who have experienced abuse might choose to avoid pregnancy. In other words, being free from abuse might have a positive influence on the decision of farm worker women to become pregnant, while experiencing abuse would have the opposite effect. This outcome would contribute to our finding of a negative relationship between pregnancy and abuse. It should be noted that, despite our finding of a negative relationship between pregnancy and abuse, 46% of the abused respondents were pregnant. Although respondents were not asked if they were victimized during their pregnancy, the distribution of abuse reported here supports previous research that suggests pregnancy to be a high-risk period for women (McFarlane *et al.*, 1995; Stark and Flitcraft, 1996).

The influence of respondents' migrant status to spousal abuse indicates that migrant farm worker women were more likely to be abused than women who were seasonal farm workers. It is possible that women migrants are more likely to be abused because their high level of mobility impedes development of community and institutional ties that inhibit the onset and persistence of abusive behavior by husbands, boyfriends, or companions. In addition, language barriers and immigration status may add to migrant women's fears, making them unwilling to access domestic violence services and criminal justice intervention. According to Olavarrieta and Sotelo (1996, p. 1939), Mexican women residing in the United States illegally "seldom speak English (which produces a climate of social isolation), they lack the necessary education to hold well-paying jobs, and their legal status makes fear of deportation a deterrent against reporting episodes of domestic violence, or seeking help." Furthermore, low income minority women who live in isolated circumstances lack access to appropriate community-based services designed to treat and prevent family abuse (Pinn and Chunko, 1997).

Among the sample population included in this study, domestic violence was an equal opportunity scourge in terms of age, fertility, marital status, and race/ethnicity. Although violent victimizations by intimate partners are more likely to be targeted against younger women (Bachman, 1994), the domestic violence victims in this study were not clustered within a particular age group. Young adult, middle-aged, and elderly women faced essentially the same likelihood of being abused. Women who were married or cohabitating were not significantly more likely to be victimized than women who were single, divorced, separated, or widowed. Likewise, race/

ethnicity did not significantly influence the odds of a being the victim of domestic violence.

### **Factors that Predict Respondents' Fear of Intimate Partners**

Two variables, spousal abuse and frequency of abuse were the most significant predictors of whether respondents feared their intimate partners. Not unexpectedly, experiencing spousal violence had the greatest influence on this outcome. Our analysis indicates that after controlling for the presence of abuse, respondents' fear of their intimate partners increased in direct relation to the frequency of victimization they suffered. This suggests that abused women were less likely to be fearful of their partners when the frequency of victimization was relatively low. It is worth noting that 51.4% of the abused women did not fear their husband, boyfriend, or companion. In postsurvey discussions, clinic staff members offered their explanation for the apparent contradiction between battering and the lack of reported fear by many respondents. The clinic staff believed that many Latina women accepted battering as an inevitable part of male/female relationships. Therefore, their clients tended to understate their concerns and the dangers inherent in battering. This explanation is consistent with Torres's (1991) findings that Mexican-American women were more likely than Anglo women to view certain levels of abuse as normal and acceptable.

Drug/alcohol use also had a meaningful, though not statistically significant, effect on the likelihood that respondents would be fearful. Given the strong influence of drug/alcohol use on domestic abuse, it is not surprising that drug/alcohol use triggered fear among many respondents.

### **IMPLICATIONS**

These conclusions have several implications for future research and for improving domestic violence services to low income women who live in rural areas. First and foremost, our analysis underscores the unmet need for additional research pertaining to family violence in rural America. Based on the prevalence statistics presented in this paper, we estimate that approximately one of every five women who reside in rural areas are victimized by spousal violence. Yet social scientists and other researchers have largely ignored rural domestic violence. In addition, an important direction for future research in this area is to specify further the nature of the relationship between substance abuse and rural domestic violence. For example, researchers should examine whether rural family violence varies



in relation to different patterns of drug/alcohol use. Another area in which additional research is required is the complex relationship between pregnancy and the likelihood of experiencing spousal violence. Future research also should attempt to explicate how sociocultural factors in rural communities affect rates of spousal abuse. For instance, criminal justice responses to family abuse, the availability of drug/alcohol treatment programs, and prevailing norms concerning gender roles might influence the prevalence of domestic violence in rural areas (Gagne, 1992; Websdale, 1997).

Previous research indicates that low-income, minority women are less likely to access domestic violence services (e.g., law enforcement, social service agencies, and domestic violence shelters) than populations that are not as marginalized from mainstream society (Pinn and Chunko, 1997; Van Hightower and Gorton, 1998). Inaccessibility and underutilization of these services mean that rural health care clinics are likely to be valuable settings for research and intervention in rural domestic violence. Marginal populations are drawn to such clinics for purposes of receiving prenatal care. However, for intervention to be successful, health care personnel must be skilled in assessing patients' risk for physical and sexual abuse. Our analysis indicates that all patients should be routinely screened for presence of domestic violence, drug/alcohol use, and fear of their intimate partners. As the literature cited here suggests, assessments for presence of violence should be sensitive to multicultural perspectives of domestic abuse. The information gathered from clinical evaluations can be used to assist patients in developing safety plans and to refer them to other community resources.

Because of the closer ties among their residents, rural communities offer interesting potentials for creating a community ethos that discourages domestic violence (Websdale, 1997). Public health care officials such as school nurses, health department staff, social workers, and substance abuse counselors can and should join this endeavor by improving their intervention skills and building public awareness about the treatment and prevention of rural domestic violence.

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