ABSTRACT

Objective: To describe timing and severity of abuse before and during pregnancy for African American, Hispanic, and white Anglo American women.

Findings: Among 199 abused women, 18.1% of the women were abused during pregnancy but not the year before, 30.2% were abused the year before but not during pregnancy, and 51.8% were abused both the year before and during pregnancy. The timing of abuse did not vary by ethnicity. The three (ethnicity) by three (timing) factorial analysis of variance showed severity of abuse to vary by timing of abuse. Women reporting abuse both before and during pregnancy reported greater severity of abuse on each of the five measures than did women abused only before pregnancy or only during pregnancy.

Conclusions: Over half (51.8%) of the women reported abuse before and during pregnancy with these women reporting greater severity of abuse on all five severity scores. Timing and severity of abuse did not vary by ethnic group. The majority of women abused during pregnancy were also abused prior to pregnancy, indicating the need for universal screening of all women during each health encounter. © 1999 by the American College of Nurse-Midwives.

Abuse during pregnancy is common. Depending on the population surveyed and instruments used, estimates of the prevalence, developed from clinic-based studies, range from 0.9% to 20.1%, with the bulk of studies reporting a prevalence of 3.9% to 8.3% (1). If these percentages are applied to the 3.9 million U.S. women who delivered live-born infants in 1995, then it would appear that 152,000–324,000 women experience abuse during their pregnancies (2). Complications of pregnancy, including low weight gain, anemia, infections, and first and second trimester bleeding are significantly higher for abused women (3,4), as are maternal rates of depression, suicide attempts, tobacco, alcohol, and illicit drug use (5–8). Rates indicate abuse may be more common among pregnant women than are pre-eclampsia, gestational diabetes, and placenta previa (9).

Additionally, when compared to women abused before pregnancy, those abused during pregnancy reported more risk factors for homicide (10). Two recent studies found homicide to be the leading cause of injury death for pregnant women (11,12). Clearly, abuse during pregnancy is a major threat to the health and survival of pregnant women.

Abuse during pregnancy also affects infant birth weight. A study of 689 infants in public and private hospitals found women reporting abuse twice as likely to deliver an infant less than 2,500 grams. The association held when alcohol use and smoking were controlled (13). An ethnically stratified cohort study of 1,204 pregnant women found, as an aggregate and for each ethnic group, women abused during pregnancy delivered a significantly ($P < .02$) higher percentage of infants weighing less than 2,500 grams (3,4). Additional studies report appreciably lower mean birth weights for infants born to women abused during pregnancy (14,15); however, three studies found no association between abuse during pregnancy and birth weight or gestational age at delivery (5,16,17).

Most research to date has focused on establishing prevalence of abuse during pregnancy and associated health outcomes, especially regarding infant birth weight. The timing and severity of the abuse experienced by pregnant women are rarely addressed, as are ethnic differences. The need for research on severity of abuse prepregnancy compared to pregnancy as well as data on severity for different ethnic groups was recently noted by an expert panel report from The National Centers for Injury Prevention and Disease Control (18). Additionally, the Panel on Research on Violence Against Women, established by the National Research Council, recommends longitudinal research on violence against women and the influences of socioeconomic, cultural, and ethnic factors (19). The purpose of this study is to extend knowledge about abuse prepregnancy and during pregnancy by describing timing and severity of abuse expe-
experienced by an ethnically stratified cohort of abused women.

MATERIALS AND METHODS
The descriptive data presented in this report is part of a larger study that measured the effectiveness of an intervention protocol for pregnant abused women (20). Following human subject approval, the study was completed in public clinics in two geographic settings offering a variety of services for women and children. To recruit subjects for the study, all pregnant women were assessed for abuse by the investigators using the Abuse Screen. See Appendix. If the woman answered yes to questions 2, 3, 4, or 5 and the perpetrator was her current or former male partner (ie, husband, ex-husband, boyfriend, ex-boyfriend), she was invited into the study. Women reporting abuse by a perpetrator other than her male partner (ie, stranger, relative, parent) did not meet the study criteria. A total of 228 women met the study criteria; 12 women meeting study criteria refused to participate and 17 women who entered the study were lost to follow-up. The primary reason given for refusal to enter the study was fear of retaliation by the abuser. A total of 199 women met study criteria and form the sample for this report.

The data described in this report are from the first interview. After completion of informed written consent, each woman was administered the Index of Spouse Abuse (ISA), Danger Assessment Screen (DAS), and Severity of Violence Against Women Scale (SVAWS). Instruments were administered by the investigators in a private room without the male partner present. All instruments were offered in English and Spanish. A bilingual investigator administered the instruments to Spanish-speaking women.

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INSTRUMENTS
Abuse Screen
The Abuse Screen consists of five questions to determine timing of abuse and perpetrator within a defined period of time. See Appendix. The Abuse Screen was derived from the Abuse Assessment Screen, which was developed by the Nursing Research Consortium on Violence and Abuse (21). Content validity was established for the Abuse Assessment by comparing responses with scores on the ISA and DAS (22).

Index of Spouse Abuse
The Index of Spouse Abuse (ISA) is a 30-item, self-report scale designed to measure the severity or magnitude of physical (ISA-P) and nonphysical (ISA-NP) abuse inflicted on a woman by her male partner (23). Initial reliability estimates exceeded .90 for each subscale with both discriminant validity and convergent validity demonstrated in early studies. In the current study, internal consistency reliability as measured by coefficient α was .95 for the instrument as a whole and .86 and .94 for the physical and nonphysical subscales, respectively.

Danger Assessment Scale
The Danger Assessment Scales (DAS), consisting of 14 items with yes/no response format, is designed to assist abused women in determining their potential danger of homicide (24). All items refer to risk factors that have been associated with homicides in situations involving battering. Reliability for the current sample was .72 with validity demonstrated by a correlation of .75 with the ISA-P scores from this study.

Severity of Violence Against Women Scales
The Severity of Violence Against Women Scales (SVAWS) is a 46-item questionnaire designed to measure two major dimensions: behaviors that threaten physical violence and actual physical violence (25). Included are nine factors or subscales that have been demonstrated valid through factor analytic techniques. For each behavior, the woman responds using a 4-point scale to indicate how often the behavior occurred. Initial internal consistency reliability estimates ranged from .92 to .96 for a sample of 707 college female students and from .89 to .96 for a sample of 208 community women. For the current sample, reliability (coefficient α) for the two major dimensions were .92 for overall threats and .93 for actual violence.

SAMPLE
This report is based on a study of 199 abused women, of whom 35% (n = 70) are African American, 33% (n =
66) Hispanic (primarily Mexican and Mexican American), and 32% \((n = 63)\) are white Anglo American women. \((Hispanic\) was defined as non-Anglo and non-African American and of Spanish speaking descent.) The women were between the ages of 14 and 42 years, with a mean age of 23.2 years \((SD = 5.6)\); 29.6% were teenagers (ie, 19 years or less). This was the first pregnancy for 35% of the women; 65% remained in the relationship with the abuser, 30% were separated, and 5% classified themselves as “other.” Educational level ranged from 2 to 16 years, with a mean of 10.4 \((SD = 2.37)\). The number of children living with the women ranged from zero to five with a mean of 1.6 \((SD = 1.21)\). All women had incomes below the poverty level as defined using each state’s criteria for Women Infants Children \((WIC)\) eligibility.

**ANALYSIS PLAN**

Analysis consisted of examining the demographic characteristics as well as severity and timing of abuse for their relationship to ethnicity. \(\chi^2\) Analysis was used for nominal level data \((eg,\ living\ with\ partner)\) and one-way analysis of variance \((ANOVA)\) was used for interval level data \((eg,\ age\ or\ severity\ of\ abuse)\). To explore the relationship of both ethnicity and timing of abuse to the severity of abuse, a three \((ethnicity)\) by three \((timing)\) factorial ANOVA was used with each of the severity scores analyzed separately. To control against an inflated level of significance because of the interrelationship among the severity scores, an adjusted level of significance \(.01\) was used for analyses involving the severity scores. The post hoc procedure for the ANOVA was the Tukey test.

**RESULTS**

Table 1 summarizes the demographic characteristics of the sample by ethnic group. The groups are similar except in two areas: Hispanic women had significantly less education than African American or white Anglo American women, and white Anglo American women had significantly fewer children than the others. Ninety-three percent of the white Anglo American women had two or fewer children as compared to 74% of the African American and 73% of the Hispanic women.

Based on entry visit data, 157 women \((79%)\) reported physical abuse and 40 \((20%)\) reported sexual abuse during the 12-month period before pregnancy, whereas 137 \((69%)\) reported physical abuse and 23 \((12%)\) reported sexual abuse during pregnancy. Responses did not vary by ethnic group. Combining responses to the abuse questions, then, 163 \((82%)\) reported abuse \((physical\ and/or\ sexual)\) during the year before pregnancy and 139 \((70%)\) reported abuse during pregnancy. Of those abused before pregnancy, 103 \((63%)\) were also abused during pregnancy. Based on this information, three groups were formed: 1) abused during pregnancy but not the year before, 2) abused the year before but not during pregnancy, and 3) abused both the year before and during pregnancy. Approximately half \((51.8%)\) of the women reported being abused both in the year before and during pregnancy, with almost one third \((30.2%)\) reporting that although abuse occurred during the year before pregnancy, it stopped during the pregnancy. The proportion of women with the various timing of abuse did not vary by ethnicity \(\left(\chi^2\left(4\right) = 1.66,\ P = .799\right)\).

Mean values for severity of abuse scores by ethnic group appear in Table 2. Because of the correlation among scale scores, the \(\alpha\) level for each comparison was adjusted to .01. Scores on the ISA-NP subscale differed among the three groups \((F = 8.38, df = 2,196; P < .001)\) as did scores on the Threat of Violence dimension of the SVAWS \((F = 6.70, df = 2,196; P = .002)\). Using the Tukey post hoc procedure, African American women reported significantly less nonphysical abuse on the ISA as compared to Hispanics and white Anglo Americans. Groups did not differ on the severity of physical abuse as reported on the ISA \((F = 1.21, df = 2,196; P = .301)\); however, using the SVAWS, white Anglo American women reported an increased threat of violence as compared to African American and Hispanic women, although the groups did not differ on the Actual Violence reported \((F = .62, df = 2,196; P = .540)\). Ethnicity accounted for 7.9% of the variability in ISA-NP scores and 6.4% of the variability in Threat of Violence scores.
Because the timing of abuse might also account for differences in the severity of abuse, each score was also analyzed using a three (ethnicity) by three (timing) factorial ANOVA. Again, the $\alpha$ level was adjusted to .01 to account for correlations among the scores. Ethnicity remained significant ($P < .001$) for ISA-NP and for Threat of Violence (Table 3) with African American women reporting lower scores on the ISA-NP subscale and both African American and Hispanic women reporting lower scores on the Threat of Violence dimension. Ethnicity accounted for 8.1% and 7.4% of the variability, respectively. No interaction of ethnicity and timing of abuse was found for any of the scale scores, although the timing of abuse was significant for each of the severity of abuse scores ($P < .002$). That is, controlling for ethnicity, the severity of abuse differed depending on the timing of abuse. Specifically, based on Tukey post hoc tests, women reporting abuse both before and during pregnancy reported greater severity of abuse on each of the five measures compared to women abused only before pregnancy or only during pregnancy. The percent of variability accounted for by timing of abuse ranged from 6.1% for the ISA-P scores to 11.6% for the Danger Assessment.

**DISCUSSION**

Among this group of 199 abused women, over half (51.8%) of the women reported abuse both before and during pregnancy with no significant difference by ethnicity. Although two severity scores (ISA-NP and Threat of Violence) differed by ethnicity, once ethnicity was controlled, it was the timing of abuse that accounted for significant differences in all severity scores. Regardless of ethnicity, women reporting abuse both before and during pregnancy reported greater severity of abuse on each of the five measures compared to women abused only before pregnancy or only during pregnancy.

Regarding ethnic difference in violence against women, national survey studies suggest that African Americans are more likely than white Anglo Americans to report physical violence in an intimate relationship (26–29). Recent Bureau of Justice statistics document rates of intimate partner abuse highest among African American women, women aged 16–24 years, women in households in the lowest incomes categories, and women residing in urban areas (30). The same document reports that, on average, each year from 1992 through 1996 about 12 per 1,000 African American women experienced violence by an intimate, compared to about 8 per 1,000 white Anglo American women and 7 per 1,000 for Hispanic women.

There is little agreement on the effect of Hispanic ethnicity compared to white Anglo American ethnicity on physical violence in marriage. Hispanics are reported to be at higher (31), similar (32), and lower (4,33) risk.

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**TABLE 2**

Means (and Standard Deviations) of Severity of Abuse Scores by Ethnic Group

<table>
<thead>
<tr>
<th></th>
<th>African American (n = 70)</th>
<th>Hispanic (n = 66)</th>
<th>White Anglo American (n = 63)</th>
<th>F test, P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger assessment</td>
<td>6.1 (3.11)</td>
<td>6.1 (3.24)</td>
<td>7.0 (2.78)</td>
<td>NS</td>
</tr>
<tr>
<td>ISA-Physical</td>
<td>30.3 (22.51)</td>
<td>32.7 (22.43)</td>
<td>36.2 (20.68)</td>
<td>NS</td>
</tr>
<tr>
<td>ISA-Nonphysical</td>
<td>34.3 (23.83)</td>
<td>49.8 (30.23)</td>
<td>51.1 (24.50)</td>
<td>8.38, $P &lt; .001$</td>
</tr>
<tr>
<td>Threat of violence</td>
<td>38.1 (13.52)</td>
<td>39.9 (15.19)</td>
<td>46.8 (12.95)</td>
<td>6.70, $P = .002$</td>
</tr>
<tr>
<td>Actual violence</td>
<td>48.6 (15.12)</td>
<td>48.2 (16.42)</td>
<td>51.1 (17.02)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note: df for F test are 2,196.
* Significance set at $P < .01$.
NS, not significant.

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**TABLE 3**

Factorial Analysis of Variance Results for Severity of Abuse by Ethnicity and Timing of Abuse

<table>
<thead>
<tr>
<th>Scale</th>
<th>Ethnicity</th>
<th>Timing of Abuse</th>
<th>Ethnicity × Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger assessment</td>
<td>NS</td>
<td>$F = 12.96, P &lt; .001$</td>
<td>NS</td>
</tr>
<tr>
<td>ISA-Physical</td>
<td>NS</td>
<td>$F = 6.31, P = .002$</td>
<td>NS</td>
</tr>
<tr>
<td>ISA-Nonphysical</td>
<td>$F = 9.24, P &lt; .001$</td>
<td>$F = 8.12, P &lt; .001$</td>
<td>NS</td>
</tr>
<tr>
<td>Threat of violence</td>
<td>$F = 8.50, P &lt; .001$</td>
<td>$F = 8.02, P &lt; .001$</td>
<td>NS</td>
</tr>
<tr>
<td>Actual violence</td>
<td>NS</td>
<td>$F = 10.02, P &lt; .001$</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note: Ethnicity and timing df = 2,190; ethnicity × timing df = 4,190.
Significance set at .01
NS, not significant.
than non-Hispanic white Anglo Americans for physical violence in marriage. Kantor et al (34) report no significant differences between Hispanic American subgroups and white Anglo Americans in the incidence of marital violence when norms regarding violence approval, age, and economic stressors are held constant. Reports concur that being born in the United States increases the risk of wife assault for Hispanic women (32,34).

Few reports deal with ethnic difference in violence against pregnant women. In one longitudinal analysis of an ethnically stratified cohort, a higher occurrence and severity of abuse was reported by pregnant white Anglo American women compared to Hispanic and African American women; however, prevalence was measured as a combination of male intimate and non-intimate (ie, parents, siblings, strangers) violence (4). No reports were identified that addressed timing and severity of intimate partner abuse toward an ethnically stratified cohort of pregnant women.

The research reported here has several limitations. The study relies on self-reports, which may underestimate the true severity of abuse due to inadequate recall and/or lack of voluntary disclosure. No attempt was made to independently confirm the severity of injury reported by the women. In like fashion, timing of abuse was self-reported by the women. Additionally, this study used a convenience sample of several public clinic populations, limiting the generalizability to the general population of abused women.

IMPLICATIONS AND CONCLUSIONS

Healthy People 2000: National Health Promotion and Disease Prevention Objectives (35) denotes prevention of violence as one of the 21 priority objectives for the United States. Healthy People 2000: Midcourse Review and 1995 Revisions (36) calls for the training of health care professionals to address the needs of victims of violence. Violence in America: A Public Health Approach recommends the “establishment and implementation of model protocols for early identification and referral of abuse victims in health settings and states: early identification, supportive education, effective referral, and ongoing support and follow-up for abused women at primary care sites could eventually reduce the prevalence of abusive injury by up to 75% (37).

The American College of Nurse-Midwives promotes screening for all women presenting for midwifery care (38). The American College of Obstetricians and Gynecologists (39,40) has emphasized the existence of partner violence and the need for routine assessment of all women (41). The Council on Scientific Affairs of the American Medical Association (42) lists four steps to increase detection of abuse among female patients, beginning with routine assessment documented in the medical record. The position of the American Academy of Family Practice (43) is that family physicians must be able to recognize and know how to treat family violence. Specific protocols for intervening for abuse during pregnancy (44), and identification, assessment and intervention in health care settings (45) have been published.

Clinical implications are straightforward. It is only during pregnancy that women have regular scheduled contact with health care providers. This research documents that the majority of women abused during pregnancy are also abused before pregnancy and these women experience the most severe abuse. Additionally, the timing and severity of abuse did not differ by ethnic group. Clearly, routine screening for abuse during each prenatal visit with appropriate intervention is essential in attempting to interrupt the cycle of violence and prevent future trauma. A decade ago, the Surgeon General called for routine abuse assessment of pregnant women (46). If women are not assessed for abuse, violence will remain undetected and untreated, placing women at risk for escalating abuse and further trauma. Routine assessment and intervention for abuse must be standard care for all women.

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REFERENCES


**APPENDIX**

**ABUSE SCREEN**

Circle YES or NO for each question.

1. Have you EVER been emotionally or physically abused by your partner or someone important to you? YES NO
2. IN THE YEAR BEFORE YOU WERE PREGNANT, were you pushed, shoved, slapped, hit, kicked or otherwise physically hurt by someone? YES NO
3. SINCE THE PREGNANCY BEGAN have you been pushed, shoved, slapped, hit, kicked or otherwise physically hurt by someone? YES NO
4. IN THE YEAR BEFORE YOU WERE PREGNANT, did anyone force you to have sexual activities? YES NO
5. SINCE THE PREGNANCY BEGAN has anyone forced you to have sexual activities? YES NO
6. Are you afraid of your partner or anyone you listed above? YES NO