

The Effectiveness of an Abuse Assessment Protocol in Public Health Prenatal Clinics

ABSTRACT

Objectives. This study evaluated whether incorporation of an abuse assessment protocol into the routine procedures of the prenatal clinics of a large urban public health department led to increased referral for and assessment, identification, and documentation of abuse.

Methods. Evaluation was conducted at 3 matched prenatal clinics serving a total of 12 000 maternity patients per year. Two clinics used the abuse protocol and 1 did not. An audit was performed at the clinics on a randomly selected sample of 540 maternity patient charts for the 15 months before the protocol was initiated and of 540 records for the 15 months after the protocol was introduced. Ninety-six percent of the patients represented in the sample were Latina.

Results. At the clinics using the protocol, abuse assessment increased from 0 to 88%. Detection of abuse increased from 0.8% to 7%. There were no changes at the comparison clinic.

Conclusions. Incorporation of an abuse assessment protocol into the routine procedures of public health department prenatal clinics increases the assessment, identification, and documentation of and referral for abuse among pregnant women. An abuse protocol should be a routine part of maternity care. (*Am J Public Health.* 1999; 89:1217-1221)

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More than a decade ago, the surgeon general called for routine assessment of abuse of pregnant women.¹ *Healthy People 2000: Midcourse Review and 1995 Revisions* called for the training of health care professionals to address the needs of victims of violence.² Public health officials recommend that standard protocols be implemented in health care settings in the belief that "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%."³

The American College of Obstetricians and Gynecologists^{4,5} has emphasized the existence of partner violence and the need for routine assessment of all women.⁶ The American College of Nurse-Midwives promotes screening for all women presenting for midwifery care.⁷ The position of the American Academy of Family Physicians is that family physicians must be able to recognize and know how to treat family violence.⁸ The Council on Scientific Affairs of the American Medical Association⁹ lists 4 steps to increase detection of abuse among female patients, beginning with routine assessment documented in the medical record. Specific protocols for intervening in cases of abuse during pregnancy¹⁰ and for identification, assessment, and intervention in health care settings¹¹ have been published.

In contrast to official recommendations, studies show that abuse assessment is not routine,^{12,13} assessment protocols are not common in emergency departments,¹⁴ and documentation of abuse assessment in the maternity medical records of public health clinics is low.¹⁵ A few studies have examined the extent to which abuse assessment has been incorporated routinely into primary care settings. One study found that 26% of female and 19% of male obstetricians and gynecologists screen for abuse.¹⁶ A survey of patients and physicians in a variety of primary care

settings showed that most primary care physicians never inquired at a patient's initial or annual visit about physical or sexual abuse.¹⁷ A survey of patients in 1 family practice found that only 6% of the women had been asked by their physician during a recent visit about abuse.¹⁸

Some researchers have evaluated programs designed to increase abuse assessment. One study found that the detection rate for abuse remained unchanged after an education program for the physicians and nurses of an emergency department and that only 50% of the abuse reported on a screening questionnaire was included in the medical record.¹⁹ Other research showed that identification of abuse increased to 11.6% when one question about assault by an intimate partner was added to a self-administered health history form in a primary care setting, in contrast to no identification when questioning was left to the discretion of health care providers.²⁰ One chart review study found that emergency room identification of abuse of women increased from 5.6% to 30% one year after the introduction of a protocol.²¹

Few studies have been conducted to evaluate the effects of including assessment and referral protocols in public health services. Researchers found that the use of a specific screen in prenatal clinics to assess for abuse during pregnancy resulted in a 9% higher detection rate than a routine social services interview.²² Another study found that when 4 abuse assessment questions were asked by the nurses in a family planning

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clinic, the prevalence of detected abuse was 22% higher than when patients self-reported abuse through a questionnaire.²³

The purpose of the study reported here was to determine whether incorporating an abuse assessment protocol into routine prenatal care provided by public health clinics would increase detection of, referral for, and charting of abuse in maternity medical records.

Methods

This study used a quasi-experimental design with pre- and postintervention measures and comparison groups to evaluate an abuse protocol. An abuse assessment protocol was implemented in 2 clinics (intervention group) of the public health department of a large city in the southwestern United States. A third clinic of the department that did not implement the protocol served as a comparison site for this study.

Among the 7 departmental clinics, the 3 participating in this study had the largest annual number of prenatal patients and were the most closely matched to one another on the annual number of prenatal patients and the ethnicity of patients. The 3 clinics each served between 2000 and 3000 maternity patients per year at 12 000 to 17 000 patient visits per clinic. At least 97% of the maternity patients at each of the 3 clinics were Latina.

At both of the clinics where the administrator decided to implement the protocol, an in-service education session about the protocol was held for all prenatal clinic staff, including nurses, physicians, nutritionists, counselors, and clerical staff. The 90-minute session included information about abuse of women and procedures for conducting abuse assessments and making referrals to an on-site counselor. The clinic staff were instructed in the March of Dimes protocol,²⁴ including the Abuse Screen questionnaire.^{25,26} A nurse trainer made weekly visits to the intervention clinics to offer support and guidance in maintaining the protocol and to instruct new nurses in how to carry out the protocol.

The protocol specified that the Abuse Screen form be included in all charts prepared for new maternity patients and be administered to all prenatal patients at their first visit during the routine prenatal intake interview conducted by the prenatal clinic nurse. The Abuse Screen form was available in both English and Spanish and was administered in a private room without the male partner or other individuals being present. A bilingual Spanish-speaking abuse counselor was located on-site at each of the 2 intervention clinics, and the protocol specified that

the prenatal clinic nurses refer all abused women to that counselor.

To determine the extent of the abuse assessment protocol's implementation, an audit of a random sample of first-visit maternity patient charts was conducted at each of the 3 clinics. The chart audits covered the 15-month period before the protocol was introduced and the 15-month period after its introduction. The 15-month period after the protocol's introduction was divided into an initial 3-month period and a subsequent 12-month period so that maintenance of the protocol as well as short-term effects could be evaluated.

A sample of 540 charts from each of the 15-month periods was selected. This sample size was chosen on the basis of a directional hypothesis that over several chart audit periods, assessment for abuse would increase to between 80% and 95% at the intervention clinics while remaining essentially zero at the comparison clinic. Also, any statistical testing would apply an α level of .001 and a β level of .80.

Only the medical records of women who were past their delivery due date were audited, so as to include the possibility of staff screening for abuse at any prenatal visit. The audit before the abuse screening protocol's introduction included only records of women who were past their expected delivery date before the protocol was introduced. The medical records of prenatal patients whose first visit occurred during the 6-month period in which staff education and introduction of the protocol were being carried out were not included in the protocol.

A standard data collection form was used to audit each chart. The form included collection of demographic characteristics of each patient (because of patients' concerns about their legal documentation status, they were not asked to identify their country of origin), the number of prenatal visits, and gestational age at the time of the woman's first prenatal visit. The form was also used to collect data on whether (1) the Abuse Screen form was included in the medical record, (2) the Abuse Screen form had been completed, (3) the woman had been abused, (4) referrals for abuse were documented, and (5) referral was made by a nurse, physician, or other health care provider. The audit also examined all medical and nursing progress notes in the entire maternity medical record to determine whether they contained documentation of abuse from a source other than the Abuse Screen form.

The Fisher 2-tailed exact test was used to determine whether there were statistically significant differences between the intervention group and the comparison clinic group, both

before and after the protocol was introduced. Analyses were conducted to look for differences in the proportion of charts audited that contained the Abuse Screen form, the proportion of Abuse Screen forms in the chart that were completed, the proportion of women screened who were abused, and the proportion of abused women who received referrals. The sequentially rejective Bonferroni technique was used to control the overall error rate at 0.05 for each set of Fisher exact tests.

Results

A total of 540 maternity medical records at the 3 clinics were audited for the 15 months before introduction of the abuse assessment protocol, and 540 were audited for the 15 months after its introduction. The medical chart audit conducted at the 3 clinics after the protocol's introduction showed that 96% of the women were Latina (mostly Mexican Americans), 97% had annual family incomes of less than \$20 000, and 60% were aged 20 to 29 years (24% were younger than 20 years). At the time of their first prenatal visit to the clinic, 42% of the women were in the first trimester (<14 weeks) of pregnancy and 42% were 14 to 28 weeks pregnant. Sixty-one percent of the women made 5 or more prenatal visits to the clinic. A significantly ($P = .001$) larger proportion of women at the intervention clinics (46%) than of women at the comparison clinic (31%) had annual family incomes of \$10 000 or more.

During the 15 months before the protocol's introduction, there were 7816 new maternity patients at the intervention clinics and 3953 at the comparison clinic; 540 (4.59%) of those charts were audited. Abuse was noted in 3 charts (0.8%) at the intervention clinic and in 1 chart (0.6%) at the comparison clinic.

The chart audit found that inclusion of the Abuse Screen form in the medical record, use of the Abuse Screen form, detection of abuse, and referral for abuse increased at the intervention clinics during the 15 months following introduction of the abuse assessment protocol (Table 1). There was no change at the comparison clinic.

Before introduction of the abuse assessment protocol, no specific form for assessing abuse was included in the maternity medical records at the 3 clinics. During the 15 months following introduction of the abuse assessment protocol, 88% of the charts audited at the intervention clinics contained the Abuse Screen form, compared with 0% at the comparison clinic ($P < .0001$). The Abuse Screen was not included in 15% of the charts at the 12-month audit after the protocol

was introduced at the intervention clinics, which was a 9% decrease from the 3-month audit ($P = .013$). The decrease in the proportion of charts that contained completed Abuse Screen forms was not significant.

Fifteen months after the protocol was introduced, 96% of the Abuse Screens were completed in those charts that contained the forms. All were completed at the first prenatal visit. The final 12-month audit showed that 85% of the charts contained a completed form.

The intervention clinics had significantly higher reported rates of abuse than the comparison clinic (7% vs 0%; $P < .0001$) after the protocol was introduced. The proportion of women identified as abused was significantly higher at the intervention clinics after the protocol was introduced than before (7.22% vs 0.83%; $P < .0001$). Women were 7 times more likely to be identified as abused after the protocol was in place than before (odds ratio = 6.78; 95% confidence interval = 2.35, 19.56).

The 17 abused women identified during the 12-month audit at the intervention clinics ranged in age from 18 to 36 years, the gestational age ranged from 6 to 27 weeks, and the number of prenatal visits ranged from 2 to 11. There was no significant difference in age, gestational age, or number of prenatal visits between abused women and women not abused.

During the 15 months before introduction of the protocol, there were no referrals documented in the charts at either the intervention clinics or the comparison clinic. After introduction of the protocol at the intervention clinics, documentation of referral was included in 67% of the charts of abused women at 3 months and in 53% of the charts of abused women at 12 months.

In the 15 months before introduction of the protocol, 3 of the 4 cases of documented abuse in the medical records indicated which provider identified the abuse; in 2 cases it was a registered nurse and in the other it was a physician. In the audit of charts 3 months immediately after introduction of the protocol, the provider was documented for all 9 cases of documented abuse. In each case, a registered nurse made the assessment and referral (referrals were made to the on-site abuse counselor). At the 12-month audit, a registered nurse made the assessment in 16 of the 17 cases (1 was assessed by a provider other than a physician).

On the basis of the number of women who were identified as abused in the audited medical records and the annual number of new maternity patients, the prevalence of abuse at the intervention clinics can be projected (assuming that each woman had the opportunity to be screened). In the final 12-

TABLE 1—Audit of Maternity Patient Medical Records at Intervention and Comparison Public Health Prenatal Clinics 3 Months and 12 Months Following Introduction of an Abuse Assessment Protocol

	Intervention, n (%)	Comparison, n (%)
New maternity patients		
3 mo	1269	633
12 mo	4451	2272
Charts audited		
3 mo	110 (9)	55 (9)
12 mo	250 (6)	125 (6)
Abuse Screens in charts		
3 mo	104 (95)	0 (0)
12 mo	213 (85)	0 (0)
Completed Abuse Screens		
3 mo	103 (99)	...
12 mo	200 (94)	...
Women abused		
3 mo	9 (8)	0 (0)
12 mo	17 (7)	0 (0)
Referrals for abuse		
3 mo	6 (67)	0 (0)
12 mo	9 (53)	0 (0)

Note. The audits for the 3-month and 12-month periods after the protocol was introduced were sequential, not overlapped, for a total follow-up of 15 months.

month period, a total of 312 (7%) of the women may have been abused.

Discussion

This study demonstrated that implementation of an abuse assessment protocol in the prenatal clinics of a public health department resulted in (1) more pregnant women being assessed and referred for abuse and (2) increased documentation of abuse in maternity medical records. Increased assessment, referral, and documentation continued for 15 months after the protocol was initiated.

The results of this study appear to be more positive than the results of previous abuse assessment protocol studies.¹⁹⁻²³ However, the apparent differences in results may have been due to differences in research design, setting, or measurement instruments. The research reported here included a simultaneous nonintervention comparison group, whereas the other studies used historical comparisons. The other studies were conducted in hospital emergency departments,^{19,21} a clinic,²² an internal medicine clinic,²⁰ or a voluntary agency clinic²³ rather than in public health department clinics. Only 1 of the studies²² focused on patients receiving routine prenatal care, as did the research presented here. With the exception of 1 study that included a 20-month follow-up period,²⁰ the sample size reported here was larger, and the follow-up period longer, than that of the other

studies. Only 1 of the studies¹⁹ also reported using the Abuse Screen.

In addition to the research differences noted above, the protocol evaluated here addressed some of the known barriers to assessment and intervention in health care settings.^{8,11,27} The protocol was integrated into routine clinic procedures by including the Abuse Screen form in all new prenatal patient charts and by incorporating abuse assessment and referral into the routine first prenatal visit intake interview. Time was made available for both the professional and clinic support staff to obtain education about the protocol. Providing the protocol in the language (Spanish) of the maternity patient population may have contributed to the acceptance of the protocol by the clinic patients²⁸ and staff.

The decline in implementation of the protocol from the 3-month audit to the 12-month audit suggests that continuing education, modification of clinic procedures, or reinforcement may be needed to maintain implementation. Information about abuse could be included periodically in staff meetings. Data about the number of abused women identified and referred could be included in the routine monthly clinic activity reports. Despite researchers' efforts to provide training to all new prenatal nurses, staff turnover may have contributed to a decline in implementation. Additional research is needed on how to maintain the highest level of routine implementation of abuse protocols.

Considering the procedures specified in the protocol, the finding that the documented assessment and referral was done by nurses rather than physicians or other staff is not surprising. Although the chart audit found no such documentation, perhaps the Abuse Screen served as a cue to clinic physicians when they examined or advised abused women. Physicians or other staff may have verbally reinforced the nurses' message without documentation in the chart. Additional research is needed on coordinated abuse protocols, such as those described by McFarlane and Parker¹⁰ and Warshaw,¹¹ that specify roles for all health professionals who interact with patients.

There was documentation that referrals were made for one half to two thirds of the abused women at the intervention clinics after the protocol was introduced. For the remainder of the abused women, it is unclear whether referrals were not made or were not documented. Assessment and documentation is insufficient if women do not receive assistance to end abuse. Also, less than optimal use of an on-site abuse counselor could be a burden on public health department budgets. Additional research is needed to assess the effectiveness of having an abuse counselor on-site in public health clinics and to develop ways of increasing referral and/or documentation of referral to that counselor.

The prevalence of abuse estimated for the population of maternity patients in this study is consistent with the rates of abuse reported in the literature^{27,29} and with the reported prevalence rates for abuse among Hispanics compared with other groups.³⁰⁻³³ One study conducted in public prenatal clinics found a 13.1% prevalence of abuse among pregnant Hispanic women,³⁴ while another study on public health clinics found a 10.3% incidence among Hispanic patients.²⁷ Rates of abuse may vary because of differing assessment methods rather than a true difference in the prevalence rates.³⁵

Conclusions

The conclusions that can be drawn from the results of this study are limited, because only 3 clinics were included in the study and they were neither randomly assigned to intervention and control conditions nor randomly selected. Although matching the clinics on key characteristics increased comparability, there may have been factors unique to each clinic, such as the level of administrator or nurse support and staff turnover, that could have influenced the results. However, the analysis showed that assessment was not carried out

selectively based on income differences of women.

The ability to generalize the results of this study is limited since the protocol was implemented in a large, urban public health department that may have types of clinics, procedures, or resources different from those of smaller or rural health departments. Also, since most of the patients were Latina, the protocol included some adaptations that might differ from those in protocols of other clinics. However, the adaptations necessary to implement the abuse protocol were probably no more difficult (or unique) than those necessary with other protocols (e.g., HIV testing and counseling) introduced into public health clinics. Therefore, it seems feasible for similarly organized public health department prenatal clinics to adopt an abuse protocol similar to the one evaluated in this study.

This study shows that an abuse protocol integrated into the routine procedures of a public health prenatal clinic can lead to increased detection of abuse, referral, and documentation in the maternity medical record. This research supports recommendations that assessment and intervention for abuse be incorporated into health care. Prenatal care provides a "window of opportunity" to implement abuse protocols in public health clinics. Abuse assessment, referral, and documentation should be a routine part of maternity care. □

Contributors

W.H. Wiist was responsible for the overall conception of the research, conducted and wrote portions of the literature review, developed tables, tabulated data and directed statistical analysis, wrote the Methods and Conclusions sections and portions of the Results section, and prepared the draft and final manuscript. J. McFarlane designed the specific research methods, directed data collection, tabulated data, drafted tables, wrote portions of the Reference and Results sections, and revised the manuscript. Both authors take public responsibility for the content of the paper.

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References

1. *Surgeon General's Workshop on Violence and Public Health*. Washington, DC: US Public Health Service; 1985.
2. *Healthy People 2000: Midcourse Review and 1995 Revisions*. Washington, DC: US Dept of Health and Human Services; 1995.

3. Rosenberg M, Fenley MA. *Violence in America. A Public Health Approach*. New York, NY: Oxford University Press; 1991:150.
4. American College of Obstetricians and Gynecologists. *The Battered Woman*. Washington, DC: American College of Obstetricians and Gynecologists; 1989. Technical Bulletin No. 124.
5. American College of Obstetricians and Gynecologists. *Domestic Violence*. Washington, DC: American College of Obstetricians and Gynecologists; 1995. Technical Bulletin No. 209.
6. Chez RA, Jones RF III. The battered woman. *Am J Obstet Gynecol*. 1995;173:677-679.
7. Paluzzi PA, Houde-Quimby C. Domestic violence: implications for the American College of Nurse-Midwives and its members. *J Nurse Midwifery*. 1996;41:430-435.
8. American Academy of Family Physicians, Commission on Special Issues and Clinical Interests. Family violence: an AAFP white paper. *Am Fam Physician*. 1994;50:1636-1646.
9. Council on Scientific Affairs, American Medical Association. Violence against women: relevance for medical practitioners. *JAMA*. 1992; 267:3184-3189.
10. McFarlane J, Parker B. Abuse during pregnancy: an assessment and intervention protocol. *MCN Am J Matern Child Nurs*. 1994;19: 321-324.
11. Warshaw C. Identification, assessment and intervention with victims of domestic violence. In: Warshaw C, ed. *Identification, Assessment and Intervention With Victims of Domestic Violence: Improving the Healthcare Response to Domestic Violence*. 2nd ed. San Francisco, Calif: Family Violence Prevention Fund; 1996: 49-85.
12. Hotch D, Grunfeld A, Mackay K, Ritch L. Policy and procedures for domestic violence patients in Canadian emergency departments: a national survey. *J Emerg Nurs*. 1996;22: 278-282.
13. McGrath ME, Bettacchi A, Duffy SJ, Peipert JF, Becker BM, St. Angelo L. Violence against women: provider barriers to intervention in emergency departments. *Acad Emerg Med*. 1997;4:297-300.
14. Isaac NE, Sanchez RL. Emergency department response to battered women in Massachusetts. *Ann Intern Med*. 1994;23:885-888.
15. McFarlane J, Wiist WH. Documentation of abuse to pregnant women: a medical chart audit in public health clinics. *J Women Health*. 1996; 5:137-142.
16. Parsons LH, Zaccaro D, Wells B, Stovall TG. Methods and attitudes toward screening obstetrics and gynecology patients for domestic violence. *Am J Obstet Gynecol*. 1995;173: 381-386.
17. Friedman LS, Samet JH, Roberts MS, Hudlin M, Hans P. Inquiry about victimization experiences: a survey of patient preferences and physician practices. *Arch Intern Med*. 1992; 152:1186-1190.
18. Hamberger LK, Saunders DG, Hovey M. Prevalence of domestic violence in community practice and rate of physician inquiry. *Fam Med*. 1992;24:283-287.
19. Roberts GL, Lawrence JM, O'Toole BI, Raphael B. Domestic violence in the emer-

- gency department, II: detection by doctors and nurses. *Gen Hosp Psychiatry*. 1997;19:12-15.
20. Freund KM, Bak SM, Blackhall L. Identifying domestic violence in primary care. *J Gen Intern Med*. 1996;11:44-46.
 21. McLeer SV, Anwar R. A study of battered women presenting in an emergency department. *Am J Public Health*. 1989;79:65-66.
 22. Norton LB, Peipert JF, Zierler S, Lima B, Hume L. Battering in pregnancy: an assessment of 2 screening methods. *Obstet Gynecol*. 1995;85:321-325.
 23. McFarlane J, Christoffel K, Bateman L, Miller V, Bullock L. Assessing abuse: self-report versus nurse interview. *Public Health Nurs*. 1991;8:245-250.
 24. McFarlane J, Parker B. *Abuse During Pregnancy: A Protocol for Prevention and Intervention*. New York, NY: National March of Dimes Birth Defects Foundation; 1994.
 25. Parker B, McFarlane J. Nursing assessment of the battered pregnant woman. *MCN Am J Matern Child Nurs*. 1991;16:161-164.
 26. Soeken K, McFarlane J, Parker B, Lominack M. The abuse assessment screen: a clinical instrument to measure frequency, severity and perpetrator of abuse against women. In: Campbell JC, ed. *Empowering Survivors of Abuse: Health Care for Battered Women and Their Children*. Thousand Oaks, Calif: Sage; 1998:195-203.
 27. Quillian JP. Screening for spousal or partner abuse in a community health setting. *J Am Acad Nurse Pract*. 1996;8:155-160.
 28. Sorenson SB. Violence against women: examining ethnic differences and commonalities. *Eval Rev*. 1996;20:123-145.
 29. Wilt S, Olson S. Prevalence of domestic violence in the United States. *J Am Med Womens Assoc*. 1996;51:77-82.
 30. Straus MA, Smith C. Violence in Hispanic families in the United States: incidence rates and structural interpretations. In: Straus MA, Gelles RJ, eds. *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8145 Families*. New Brunswick, NJ: Transaction; 1990:341-367.
 31. Sorenson SB, Telles CA. Self-reports of spousal violence in a Mexican-American and non-Hispanic white population. *Violence Vict*. 1991;6:3-16.
 32. Kantor GK, Jasinski JL, Aldarondo E. Sociocultural status and incidence of marital violence in Hispanic families. *Violence Vict*. 1994;9:207-222.
 33. Sorenson SB, Upchurch DM, Shen H. Violence and injury in marital arguments. *Am J Public Health*. 1996;86:35-40.
 34. McFarlane J, Parker B, Soeken K. Abuse during pregnancy: associations with maternal health and infant birthweight. *Nurs Res*. 1996;45:37-42.
 35. Ballard TJ, Saltzman LE, Gazmararian JA, Spitz AM, Lazorick S, Marks JS. Violence during pregnancy: measurement issues. *Am J Public Health*. 1998;88:274-276.

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