

## Violence and Reproductive Health: Current Knowledge and Future Research Directions

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**Objectives:** Despite the scope of violence against women and its importance for reproductive health, very few scientific data about the relationship between violence and reproductive health issues are available. **Methods:** The current knowledge base for several issues specific to violence and reproductive health, including association of violence with pregnancy, pregnancy intention, contraception use, pregnancy terminations, and pregnancy outcomes, are reviewed and suggestions are provided for future research. **Results:** Despite the limitations of current research and some inconclusive results, the existing research base clearly documents several important points: (1) violence occurs commonly during pregnancy (an estimated 4%–8% of pregnancies); (2) violence is associated with unintended pregnancies and may be related to inconsistent contraceptive use; and (3) the research is inconclusive about the relationship between violence and pregnancy outcomes. **Conclusions:** Improved knowledge of the risk factors for violence is critical for effective intervention design and implementation. Four areas that need improvement for development of new research studies examining violence and reproductive-related issues include (1) broadening of study populations, (2) refining data collection methodologies, (3) obtaining additional information about violence and other factors, and (4) developing and evaluating screening and intervention programs. The research and health care communities should act collaboratively to improve our understanding of why violence against women occurs, how it specifically affects reproductive health status, and what prevention strategies may be effective.

**KEY WORDS:** Domestic violence; reproductive health; women.

### INTRODUCTION

An estimated 1.5 million women are physically assaulted or raped by an intimate partner in the United States annually (1). Over the past decade,

violence against women has become increasingly recognized as an issue of clinical and public health importance (2). *Healthy People 2010* objectives (3) support working toward a decrease in violence against women. Additionally, health care providers and professional groups such as the American Medical Association (4) and American College of Obstetricians and Gynecologists (5) acknowledge violence against women as a major problem that needs to be addressed in clinical practice. Increasingly, health professionals are expected to screen for and intervene in intimate partner violence in their patient populations (4–10).

Because women in their reproductive years make many visits to health care providers, an important opportunity to screen for and intervene in vio-

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lence against women is available. In 1995, an estimated 72% of U.S. women aged 15–44 years received at least one type of reproductive health care service (including contraceptive counseling or prescription; sterilization; pap smear; pelvic exam; prenatal care; postpartum care; HIV test; testing for or treatment of other sexually transmitted disease; testing or treatment for vaginal, urinary tract, or pelvic infection; abortion; or pregnancy test) (11). Furthermore, the repeated provision of reproductive health care services offers women the opportunity to develop trusting relationships with a health care provider, which may enhance disclosure rates.

Because women of reproductive age report higher rates of interpersonal violence than women in other age groups (12), a fairly extensive body of research has examined issues specific to violence and reproductive health, including pregnancy, pregnancy intention, contraceptive use, pregnancy termination, and pregnancy outcome. This commentary reviews the current literature in each of these areas and suggests areas for future research.

## CURRENT KNOWLEDGE

### Pregnancy

A 1996 article (13) synthesized and compared the methods and findings of 13 studies (14–26) examining the prevalence of violence during pregnancy. Review of these studies found that estimates of the prevalence of violence during pregnancy ranged from 0.9% to 20.1%, but most estimates fell between 4% and 8%. Since publication of this article, three additional studies (27–29) have offered similar estimates (in the 4%–8% range). If we apply these percentages to the 3.9 million women in the United States who delivered live-born infants in 1998, we can estimate that between 152,000 and 324,000 women experienced violence during their pregnancies that year. These numbers suggest that violence may be more common for pregnant women than preeclampsia or gestational diabetes, conditions for which screening for during pregnancy is routine.

### Pregnancy Intention

Women whose pregnancies are unintended share some common risk factors with women who experience violence: younger age, lower income, and

being unmarried. Studies have directly examined the relationship between unintended pregnancy and physical violence (18, 21, 25, 27, 30–32). In both population- and clinic-based studies, results are fairly consistent that women whose pregnancy was unintended had two to four times the risk of experiencing physical violence as did women whose pregnancy was planned. One study using qualitative methodology (30) found that women in battered women's shelters described abusive relationships that resulted in unintended pregnancy through the partner's control of contraception and coercing the woman to have a child.

### Contraceptive Use

The elevated rate of unintended pregnancies among women experiencing violence during pregnancy may be related to lower contraceptive use among women who experience violence. Although a direct link between contraception and violence against women has not been studied, it has been suggested that violence is probably part of the reason for failure to use contraception because the threat of abuse makes birth control negotiation difficult (33). Barrier methods, such as diaphragms and condoms, may not be feasible alternatives for women who experience sexual abuse by intimate partners (34). Because of the nature of the relationship, these women may not be given an opportunity to use barrier methods or even discuss the possibility of use with the abusive partner (35–37).

### Pregnancy Termination

Even less research has been conducted on whether violence against women is associated with decisions about terminating a pregnancy. Two studies (38, 39) examining this question were conducted only with women seeking abortion services, so there was no comparison group of pregnant women electing not to terminate their pregnancy. Evins and Chesceir's work (38) suggests that rates of current abuse as well as childhood abuse experiences may be higher among women seeking abortion services; Glander and co-workers (39) found that among women seeking elective pregnancy terminations, the reasons for termination were different for women who experienced violence than for women who did not. Other studies (14, 40) examining the relationship

between violence and pregnancy termination asked only about previous terminations, so the exact causal relationship between current abuse and pregnancy termination status is difficult to assess. These studies (14, 40) found that physical violence is related to previous pregnancy terminations or miscarriages, but data were not available to determine abuse status at the time of the previous pregnancy termination.

### Pregnancy Outcome

To date, the research findings on the potential association between violence and pregnancy outcomes are inconclusive. A review article published in 1996 (41), plus additional studies published since that review (40, 42–45), found that no adverse pregnancy outcome (e.g., birthweight, preterm delivery, gestational age, infant length and head circumference, fetal death/distress) was consistently associated with violence during pregnancy (14, 22, 24, 40, 42–49). Only two outcomes, mean birth weight and low birth weight, were found to be significantly associated with abuse in more than one study (23, 47–49).

In summary, the existing research base clearly documents three important points: (1) violence occurs commonly during pregnancy (an estimated 4%–8% of pregnancies); (2) violence is associated with unintended pregnancies and may be related to inconsistent contraceptive use; and (3) the research is inconclusive about the relationship between violence and pregnancy outcomes.

### FUTURE RESEARCH DIRECTIONS

The current research literature has contributed to basic knowledge about interpersonal violence during the reproductive years, has heightened awareness of the prevalence of the problem, and has established an important scientific basis for future research. As is often true in new areas of research, some common limitations have restricted our ability to generalize these findings to all women. The following are important limitations: (1) comparing results between studies is often difficult because dissimilar screening instruments are used (50–54), (2) most of the studies had small samples, which limit generalizability of findings (usually the studies include only women who are receiving health care and have a live birth), (3) recall bias is likely with regard to violence and other risk factors before and during pregnancy when using

a retrospective study design, and (4) assessment of other factors that could influence the association between physical violence and the outcome(s) of interest is limited. In addition, the scientific research in this area has focused primarily on the prevalence of the problem and is just now at the point of launching into more analytic work.

In reviewing the literature for this article and taking into account what others have recommended (55), some important questions for future research emerge: (1) Does violence increase, decrease, or remain the same during pregnancy and the postpartum periods, and what are the implications for the health of the mother? And the child? (2) What is the role of violence on reproductive decision making including contraceptive use, pregnancy intendedness status, pregnancy resolution, and use of HIV/STD prevention methods? (3) What are the risk and protective factors for violence against women of reproductive age? (4) What screening and intervention strategies might be effective at decreasing violence against women and improving reproductive health?

To answer the first three questions mentioned above, four study aspects need strengthening when new research examining violence and reproductive health is being developed. These aspects are the study population and setting, data collection, measurement of violence and other factors, and screening and intervention programs. Each of these issues is discussed in more detail below.

### Study Populations and Settings

We should broaden our study populations and settings. Most previous research has been conducted either in battered women's shelters or prenatal health clinics. We need more population-based studies that include all women (not just those giving birth). Research is needed in a greater variety of settings, including family planning, HIV/STD, and abortion clinics. We also need a greater number of settings in clinical research (multisite projects that are comparable across clinics). Managed care organizations may be appropriate settings for this type of research.

### Data Collection

We need to determine what methodologies work best in eliciting accurate data on the occurrence of violence. Some indication exists that disclosure is

greater with in-person techniques and with well-trained and skilled clinicians (13). Previous research (13) suggests that the timing of the screening questions influences disclosure rates and that higher rates are reported with repeated questions on multiple visits and asking later in pregnancy. To assess causality, we should ask questions about violence patterns before pregnancy and during the entire pregnancy and postpartum periods. Qualitative data collection methodology would probably be valuable to complement what we are learning from quantitative studies. Along with these data collection issues, confidentiality must be addressed.

### Measurement

We need validated instruments that include measures of severity and chronicity (55). The field so far has not systematically distinguished among physical, sexual, and emotional violence. It is possible that the antecedents and outcomes are different and so might be the preferred interventions. We still need more information to understand the patterns of violence; for example, do violence patterns change during or after pregnancy; how do nonpregnant and pregnant intervals differ; and are there chronic and acute episodes of violence? Additional information is needed about frequency, timing, and severity of violence; the body site of violence and medical treatment given for injuries; the abuser's relationship to the victim; and the exact temporal relationship between violence and many of the outcomes previously mentioned. We should find out more about the abusive partner, such as when did he or she know about the pregnancy, and is the abuser during a current pregnancy the same abuser as in past pregnancies? We should also collect information about potential risk factors, a particularly important step in an area that is likely to be related to many other factors. For example, given the potential complex interactions with many factors that could influence pregnancy outcomes, we should be careful to determine the proportion attributable to violence.

The last question involves moving from the description of the interaction of violence and reproductive health to the design, implementation, and evaluation of screening and intervention strategies. Effective intervention programs must be available before we broadly recommend screening. Several recent studies have documented that practitioners do not typically screen for violence during an office visit

(56, 57). Clearly, further research is needed to determine how to improve screening rates in health care settings characterized by intense time pressures. Moreover, once we know that a woman is experiencing violence, we should work to determine effective ways to promote her safety. Research is needed to examine the effectiveness of antiviolence programs for men. Innovative programs should be developed and evaluated that coordinate community efforts from the legal, judicial, law enforcement, social services, and medical systems (58). Qualitative methodology may be important to provide insight into what may work to improve screening rates and develop effective intervention programs from the perspective of the women.

We have commented on four main questions where future research should be directed. Good research can provide information that will strengthen our agenda with physicians and decision makers who need solid scientific evidence that intimate partner violence is common, screening is worthwhile, and effective intervention programs are available. Future work must accurately capture the perspective of the women who are at risk for violence and poor reproductive health status. To meet this challenge, the research and health care communities should cross boundaries and include social scientists, victim advocates, the criminal justice system, and women who have experienced violence to address the shortcomings in our current research regarding the prevention of violence against women within the context of improving reproductive health.

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