Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 89, No. 5
doi:10.1007/s11524-012-9714-6

Are There Differences in the Impact of Partner Violence on Reproductive Health Between Postpartum Women and Women Who Had an Elective Abortion?

Vicenta Escribà-Agüir, Patrizia Romito, Federica Scrimin, and Janet Molzan Turan

ABSTRACT *The aim of this study was to determine if the effects of intimate partner violence (IPV) in the previous 12 months (current IPV) on newborn's health, pregnancy outcomes and couple's reproductive behaviours were different for postpartum (PP) women as compared to women who had undergone an elective abortion (EA) in Trieste (Italy). This study is part of an unmatched case–control study. The major findings are that current IPV was positively associated with previous stillbirth among both groups of women, but the association was only marginally significant. Among EA women only, current IPV was significantly associated with previous miscarriages (adjusted odds ratio, 2.41; 95 %CI, 1.13–5.14). In both groups of women, current IPV was associated with a lack of joint couple decision making about contraception; however, the magnitude of this effect was higher among PP women. This study reveals that IPV was associated with poor obstetrical history among both groups of women. But the associations of current IPV with previous EA and couple reproductive behaviours were stronger among PP women.*

KEYWORDS *Domestic violence, Induced abortion, Spontaneous abortion, Stillbirth, Contraceptive behaviours*

INTRODUCTION

Violence against women by male intimate partners (IPV) is recognised as one of the most common forms of gender-based violence and represents a significant public health concern. A recent review of studies examining the prevalence of physical domestic abuse before or during pregnancy in developing countries reported estimated prevalence that range from 3.5 % to 24.5 %.[1] Studies undertaken in Europe have shown a lower prevalence (1.3–5.8 %).[2–7] The reproductive years represent a particularly vulnerable period for women regarding susceptibility to potential health hazards, both for her own health (including injuries, unwanted

Escribà-Agüir is with the Centre for Public Health Research (Inequality Health Area), Valencia, Spain; Escribà-Agüir is with the CIBER Epidemiología y Salud Pública (CIBERESP), Barcelona, Spain; Romito is with the Department of Psychology, University of Trieste, Trieste, Italy; Scrimin is with the Institute for Maternal and Child Health-IRCCS "Burlo Garofolo", Trieste, Italy; Molzan Turan is with the Department of Health Care Organization and Policy, School of Public Health, University of Alabama at Birmingham, Birmingham, AL, USA.

Correspondence: Vicenta Escribà-Agüir, Centre for Public Health Research (Inequality Health Area), Valencia, Spain. (E-mail: escriba_vic@gva.es)

pregnancies, and other sexual and reproductive health problems) and for the development of the foetus.

Moreover, recent evidence suggests that abused women suffer from compromised decision making regarding contraceptive use and family planning, and have little control in their reproductive choices.[8–11] IPV affects women's reproductive lives when men manipulate contraception and force sex. Violent partners may use tactics to get women pregnant; then, they may stop them from having an abortion or, conversely, force them to undergo one.[11,12] However, the relationship between IPV, including physical and psychological violence, and women's ability to control their fertility has not been adequately explored; especially understudied is the question whether there are any differences in these relationships between women who continue their pregnancy and those who terminate it.

Furthermore, IPV prior to or during the pregnancy is associated with adverse outcomes related to pregnancy (preterm labour, hypertension, oedema, vaginal bleeding, placental problems, premature rupture of membranes, caesarean delivery and hospitalisation not associated with delivery);[13,14] as well as to foetal development and newborn health (miscarriage, premature birth, low birth weight, abruptio placentae, chorioamnionitis, neonatal death, etc.).[13–20]

Women who have an elective abortion (EA women) tend to be different from those who continue their pregnancy (postpartum (PP) women): they are more often poorly educated, without a job, without a stable relationship and at the extremes of what are usually considered the 'appropriate' reproductive ages in their societies (very young and older women).[14–16,21–24] Moreover, several studies have shown that they are also more likely to experience IPV.[12,20,24,25]

Until now, no one has tackled the issue of whether the impact of IPV on reproductive health is similar in these two groups of women. Given that EA may be associated with other social and economic problems,[14–16,21–24] these problems may compound or interact with the effects of IPV in these women, resulting in worse outcomes. On the other hand, it is possible that PP women may suffer more adverse health effects of IPV, especially if they were forced to go forward with the pregnancy by a violent partner.[11] If the effects of IPV on reproductive health are more pronounced in one group as opposed to the other, it may make sense to tailor the timing and locations of IPV screening and interventions specifically for each group.

The aim of this study was to determine if the associations of IPV in the previous 12 months (current IPV) with newborn's health, pregnancy outcomes and couple's reproductive behaviours were different for postpartum women and women that underwent an elective abortion among patients in an Italian hospital.

METHODS

Study Design and Setting

This study is part of an unmatched case–control study that was carried out in the only maternity hospital in Trieste (Italy), where the vast majority of all the births and abortions in the city take place.[24] The cases comprised all consecutive elective abortions (445) occurring from March 2006 to July 2007, performed at less than 12 weeks of pregnancy (therefore excluding 'therapeutic' abortions, performed after the 12th week of pregnancy). The unmatched control group included all consecutive live births (438), occurring from March 2006 to August 2006 in the same hospital.

Data Collection

In Trieste Maternity Hospital, EAs are performed on an out-patient basis. The information was collected from women by means of an anonymous, self-administered questionnaire, during their stay in the maternity unit, 2 days after giving birth (controls), and in the afternoon after the EA (cases). All eligible women were approached in their hospital room at a time when they did not have visitors and asked to participate. The study was presented as research on the health of women during pregnancy and confidentiality of the responses was assured. Verbal informed consent was obtained from each participant, and each was given a letter explaining the purposes of the study and information about support resources for women (telephone hotlines, shelters, other health and social services). The response rate was 93 % among cases and 93 % among controls. The study was approved by the ethics committee of the hospital.

Measures

Dependent Variables We included six indicators of newborn health and pregnancy outcomes (obstetrical history): previous stillbirth, previous miscarriage, previous elective abortion, hospital admission during pregnancy (all categorised as no/yes), and type of birth, categorised as spontaneous or not spontaneous. Furthermore, four indicators of couple reproductive behaviours were used. (1) All women were asked about couple decision making on contraception before the pregnancy. Possible answers included: contraception was (a) mostly decided by the woman, (b) mostly decided by the man, (c) decided together, (d) disagreed on, or (e) unnecessary because they wanted a baby. The question was recoded into two categories: "couple concurrency on contraception" included answers c and e, and the category "other" included all the other answers. (2) PP women were asked whether the pregnancy was (a) wanted in the same way by the woman and her partner, (b) unwanted in the same way, (c) she wanted it more, (d) he wanted it more, (e) she had almost forced the pregnancy on him, or (f) he had almost forced the pregnancy on her. The question was recoded into two categories: "Couple concurrence on pregnancy intendedness," including the first answer; and "other," including all the other responses. (3) EA women were asked if "it was the partner who wanted her to become pregnant" (i.e., the partner imposed the pregnancy on her). (4) In another question, EA women were asked if the partner had pressured her not to have an abortion, as an indicator of lack of partner support for the EA decision. The response categories for the last two questions were: no (reference) or yes.

Predictor Variable

Current IPV. We included three questions to evaluate psychological, physical and sexual violence in the previous 12 months,[24] adapted from the Abuse Assessment Screen Questionnaire.[26] Women who responded affirmatively to any of these three questions were considered to have 'current IPV exposure'.

Statistical Analysis

After a descriptive analysis of the sample, multivariate procedures were carried out with the statistical software SPSS version 15.0. A logistic regression model was fitted for each outcome variable, separately in each of the sub-samples (EA and PP women). Odds ratios were adjusted (AOR) by socio-demographic factors (age,

education and native country) and by having had previous life births, as previous studies have shown a relationship between newborn's health, pregnancy outcomes, and women's sexual health behaviours and these factors.[15,16,21,23,24,27]

RESULTS

Description of the Sample

The distribution of current IPV, social characteristics, obstetrical factors and couple's reproductive behaviours is shown in Table 1. The proportion of women reporting current IPV was higher among EA women (12.0 %) than among PP women (2.8 %). Concerning social characteristics, women seeking abortion were younger, had lower educational levels and were more likely to have been born outside of Italy than PP women. The percentage with previous live births was higher among PP women, while the percentage with previous EA was higher among EA women. Regarding couple reproductive behaviours, the percentage with lack of couple concurrence on contraception was higher among EA women.

Current IPV and Obstetrical History

Current IPV was associated with a higher probability of previous stillbirth among both groups of women but the association was marginally significant ($p=0.056$). Among EA women, current IPV was significantly associated with a higher probability of previous miscarriages (AOR, 2.41; 95 %CI, 1.13–5.14); among PP women, we found the same tendency. Among PP women, current IPV was significantly associated with previous elective abortion (AOR, 7.36; 95 %CI, 1.92–27.62; Table 2).

Current IPV and the Current Pregnancy

In PP women, current IPV was also associated with increased risk of antenatal hospitalisation and of assisted delivery, but the association was marginally significant ($p=0.060$; Table 2).

Current IPV and Couple's Reproductive Decision-Making

Among both groups of women, current IPV was associated with a lack of couple concurrence on contraception, but the magnitude of the effect was higher among PP women. Among PP women, current IPV was significantly associated with lack of couple concurrency on the pregnancy. Among EA women, current IPV was associated with the pregnancy having been forced on the woman by the partner, and the man's lack of support for the EA decision (Table 3).

DISCUSSION

The literature shows that women who have an EA tend to be different from those who continue their pregnancy, with respect to several socio-demographic characteristics (number of births, age, education, social class, etc.)[14–16,21–24] and with respect to the experience of abuse.[12,20,24,25] Consequently, the data analyses of this study on the impact of current IPV on pregnancy outcomes and couple's reproductive behaviours were carried out independently for each of the sub-samples (EA and PP women). The study thus made it possible to further identify similarities and differences in these two sub-samples.

TABLE 1 Distribution of intimate partner violence in the previous 12 months, social characteristics, obstetrical factors and reproductive behaviours among postpartum women and women with an elective abortion

	Postpartum women[a] ($n=438$)		Elective Abortion women[a] ($n=445$)		
	N	%	*N*	%	*p* value[b]
IPV previous 12 months					
No	424	97.2	383	88.0	<0.001
Yes	12	2.8	52	12.0	
Social characteristics					
Age					
36+	124	28.3	123	27.6	<0.001
26–35	284	64.8	189	42.5	
13–25	30	6.8	133	29.9	
Education					
University	137	31.3	54	12.2	<0.001
Secondary	199	45.4	198	44.7	
Primary	102	23.3	191	43.1	
Native country					
Italy	391	89.3	328	73.7	<0.001
Other	47	10.7	117	26.3	
Obstetrical factors					
Number of previous live births					
0	257	59.1	299	67.6	0.008
1+	178	40.9	143	32.4	
Number of previous stillbirths					
0	424	97.5	430	97.9	0.636
1–2	11	2.5	9	2.1	
Number of miscarriages					
0	338	77.5	358	82.1	0.092
1–4	98	22.5	78	17.9	
Number of previous elective abortions					
0	426	97.9	304	69.4	<0.001
1+	9	2.1	134	30.6	
Type of current birth					
Spontaneous	281	64.3			
No spontaneous	156	35.7			
Hospital admission during pregnancy					
No	320	73.1			
Yes	118	26.9			
Reproductive decision making					
Couple concurrence on contraception					
No	329	76.0	272	62.1	<0.001
Yes	104	24.0	166	37.9	
Couple concurrence on pregnancy					
No	67	15.3			
Yes	371	84.7			
The partner imposed the pregnancy on her					
No			423	97.2	
Yes			12	2.8	
Partner's support for the EA decision					
No			327	74.5	
Yes			112	25.5	

[a]Total number differs because of missing data
[b]Chi square

TABLE 2 Associations between IPV in the previous 12 months and obstetrical factors

	Stillbirths		Miscarriages		Previous elective abortions		Hospital admission during current pregnancy		Type of current birth	
	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]
Post-partum women										
IPV previous 12 months										
No	2.1 (421)	1	22.3 (422)	1	11.4 (421)	1	25.9 (424)	1	35.2 (423)	1
Yes	16.7 (12)	6.04 (0.96–38.09)	33.3 (12)	2.21 (0.57–8.52)	50.0 (12)	7.36 (1.92–27.62)	66.7 (12)	5.81 (1.62–20.83)	58.3 (12)	3.26 (0.95–11.16)
p value	0.002	0.055	0.250	0.124	<0.001	0.003	0.002	0.007	0.100	0.060
Elective abortion women										
IPV previous 12 months										
No	1.6 (379)	1	16.7 (377)	1	30.1 (379)	1				
Yes	5.9 (51)	4.68 (0.96–22.79)	28.0 (50)	2.41 (1.13–5.14)	33.3 (51)	1.23 (0.62–2.43)				
p value	0.044	0.056	0.051	0.023	0.635	0.557				

[a]Adjusted for age, education, native country and previous live births

TABLE 3 Associations between IPV in the previous 12 months and reproductive decision making

	Lack of couple concurrence on contraception		Lack of couple concurrence on pregnancy		The partner imposed the pregnancy on her		Lack of partner support for the EA decision	
	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]	% (*N*)	AOR (95 %IC)[a]
Post-partum women								
IPV previous 12 months								
No	23.2 (419)	1	14.4 (421)	1				
Yes	58.3 (12)	6.24 (1.65–23.65)	50.0 (12)	7.95 (2.01–31.44)				
p value	0.005	0.007	0.001	0.003				
Elective abortion women								
IPV previous 12 months								
No	35.4 (376)	1			1.9 (377)	1	22.3 (377)	1
Yes	53.8 (52)	2.39 (1.31–4.37)			9.8 (51)	4.95 (1.47–16.68)	48.1 (52)	3.60 (1.94–6.69)
p value	0.010	0.005			0.001	0.010	<0.001	<0.001

[a]Adjusted for age, education, native country and previous live births

With respect to similarities, in both groups of women current IPV was positively associated with poor obstetrical history (previous stillbirths and miscarriages), notwithstanding the fact that Trieste (Italy) is a region situated in the European Union, with a good universal health system.[28] On the other hand, this study found differences between the two groups of women. Generally, among PP women, the relationships between current IPV and poor obstetric history and lack of couple agreement on reproductive behaviour were stronger. PP women were more likely to report previous elective abortions than women with an EA. Moreover, while in both groups of women, current IPV had a negative relationship with joining couple contraceptive decision making, the magnitude of AOR was higher among PP women.

With respect to the associations of current IPV with previous stillbirths, our results are congruent with those found in the literature.[15–18,23] In this study, current IPV (physical or psychological) was associated with previous stillbirth, but the association was marginally significant. It is important to take into account that in Italy, the rate of stillbirth was very low[29] and also in this study, the prevalence of IPV (physical or psychological) around pregnancy was also relatively low (7.3 %). Thus, it is possible that this association would reach a statistical significance with a larger sample. Moreover, consistent with the findings of other authors,[18,20,23] among women with an EA current IPV was significantly associated with previous miscarriages. The same trend was found among PP women. Only Nelson et al.[30] did not find an association between physical violence and spontaneous abortion in a case–control study.

In our study, only among PP women was current IPV significantly associated with increased probability of previous EAs. This contrasts with the findings of other authors[25,31] who found that a history of abuse was associated with induced abortion.

On the other hand, similar to other authors[19,32,33] among PP women, we found that current IPV was associated with antenatal hospitalisation and of assisted delivery for the current pregnancy.[13,14,23,34]

The scientific literature has highlighted that victimised women face compromised decision making regarding contraceptive use and family planning.[11,35,36] Our results are congruent with the literature: in both groups of women, we found a lack of joint couple decision making on contraception, but interestingly the magnitude of the effect on outcomes was higher among PP women. This could indicate that EA women with a violent partner may have more agency than PP women who are in the same situation.

Moreover, among PP women, current IPV was associated with a greater probability of a lack of couple concurrency on pregnancy intendedness. As found also by other authors[9–11] in the EA group, abused women reported more often than non-abused women that the partner had imposed the pregnancy on them and that he did not support her in the abortion decision.

It is important to point out some possible limitations of this study. The cross-sectional nature of the data means that it is not conclusive as to the causal direction of the association of current IPV with obstetrical history. However, reverse causality (i.e., stillbirth causing previous or current IPV) does not seem plausible. Also, the consistency of our results with those of previous studies makes reverse causality an unlikely alternative explanation. Another possible shortcoming of our study is the fact that we did not control for medical or obstetrical factors when examining the association between current IPV and stillbirth. Women reporting any partner

violence during pregnancy were significantly more likely than women without reported partner violence to have a poor obstetrical history. However, if some causes of stillbirth (e.g., placental abruption, intrauterine growth restriction) are pathways by which women who are victims of spousal abuse could lose their foetus, adjustment for these factors on the causal pathway would actually mask the relationship between IPV and stillbirth.

In conclusion, the current findings confirm that in an industrialised country with good perinatal health indicators,[29] partner violence against woman is negatively associated with poor obstetrical history (previous stillbirth and miscarriage) among both groups of women (PP and EA). But surprisingly, the impact of current IPV on previous elective abortions and on and couple's reproductive behaviours appears to be worse among PP women. Therefore, further research should be carried out in developed countries with low prevalence of partner abuse, combining qualitative and quantitative research, to explain these possible differences between the two groups of women.

Our results highlight the need to design interventions and prevention measures adapted to the different characteristics and life histories of EA and PP women. For many women, pregnancy is the first point to entry into the healthcare system and perhaps the first contact with a helping profession. Thus, it is a good opportunity for screening and intervening in IPV. It is crucial for maternity care and abortion providers to be trained in working effectively with patients who have experienced IPV. Training should be incorporated in all phases of professional education, from undergraduate curricula (e.g., medical or nursing school curriculum) to in-service training and continuing education.[37–39]

ACKNOWLEDGMENTS

We would like to thank all the women who gave their time to complete the questionnaire and shared their experiences with us. Without them, this study would have not been possible. We gratefully acknowledge Laura Pomicino and Chiara Luchetta, the research assistants who collaborated in this study, working with dedication and commitment to ensure its successful completion."

Funding. The study was funded by a research grant from Istituto di Ricovero e Cura IRCCS "Burlo Garofolo", Trieste (Italy). The analyses and the preparation of the manuscript were partially financed by two research grants from the "Fondo de Investigaciones Sanitarias" (Ministry of Health): FIS-FEDER PI06/1565, FIS-FEDER PS09/00523 and a specific action (PD08_010) of the CIBER en Epidemiología y Salud Pública (CIBERESP), Spain. Janet Molzan Turan's work on this study was supported by NIH grant 5K01MH81777.

REFERENCES

1. Garcia C, Sharps PW. Abuse during pregnancy in industrialized and developing countries. *Violence Against Women*. 2004; 10: 770–789.
2. Bacchus L, Mezey GC, Bewley S, Haworth A. Prevalence of domestic violence when midwives routinely enquire in pregnancy. *BJOG*. 2004; 111: 441–5.
3. Stenson K, Heimer G, Lundh C, Nordström M, Saarinen H, Wenker A. The prevalence of violence investigated in a pregnant population in Sweden. *J Psychosom Obstet Gynaecol*. 2001; 22: 189–97.

4. Bacchus L, Mezey GC, Bewley S. Domestic violence: prevalence in pregnant women and associations with physical and psychological health. *Eur J Obstet Gynecol Reprod Biol*. 2004; 113: 6–11.
5. Johnson J, Haider F, Ellis K, Hay D, Lindow S. The prevalence of domestic violence in pregnant women. *BJOG*. 2003; 110: 272–5.
6. Mezey GC, Bacchus L, Bewley S, White S. Domestic violence, lifetime trauma and psychological health of childbearing women. *BJOG*. 2005; 112: 197–04.
7. Bowen E, Heron J, Waylen A, Wolke D. ALSPAC Study Team. Domestic violence risk during and after pregnancy: findings from a British Longitudinal Study. *BJOG*. 2005; 112: 1083–9.
8. Pallitto CC, O'Campo P. Community level effects of gender inequality on intimate partner violence and unintended pregnancy in Colombia: testing the feminist perspective. *Soc Sci Med*. 2005; 60: 2205–16.
9. Miller E, Decker MR, McCauley HL, et al. Pregnancy coercion, intimate partner violence and unintended pregnancy. *Contraception*. 2010; 81: 316–22.
10. Miller E, Jordan B, Levenson R, Silverman JG. Reproductive coercion: connecting the dots between partner violence and unintended pregnancy. *Contraception*. 2010; 81: 457–9.
11. Moore AM, Frohwirth L, Miller E. Male reproductive control of women who have experienced intimate partner violence in the United States. *Soc Sci Med*. 2010; 70: 1737–44.
12. Hathaway JE, Willis G, Zimmer B, Silverman JG. Impact of partner abuse on women's reproductive lives. *J Am Med Women's Assoc*. 2005; 60: 42–5.
13. Sharps PW, Laughon K, Giangrande SK. Intimate partner violence and the childbearing year: maternal and infant health consequences. *Trauma Violence Abuse*. 2007; 8: 105–16.
14. El Kady D, Gilbert WM, Xing G, Smith LH. Maternal and neonatal outcomes of assaults during pregnancy. *Obstet Gynecol*. 2005; 105: 357–63.
15. Lipsky S, Holt VL, Easterling TR, Critchlow CW. Impact of police-reported intimate partner violence during pregnancy on birth outcomes. *Obstet Gynecol*. 2003; 102: 557–64.
16. Janssen PA, Holt VL, Sugg NK, Emanuel I, Critchlow CW, Henderson AD. Intimate partner violence and adverse pregnancy outcomes: a population-based study. *Am J Obstet Gynecol*. 2003; 188: 1341–47.
17. Silverman JG, Gupta J, Decker M, Kapur N, Raj A. Intimate partner violence and unwanted pregnancy, miscarriage, induced abortion, and stillbirth among a national sample of Bangladeshi women. *BJOG*. 2007; 114: 1246–52.
18. Alio AP, Nana PN, Salihu HM. Spousal violence and potentially preventable single and recurrent spontaneous foetal loss in an African setting: cross-sectional study. *Lancet*. 2009; 373: 318–24.
19. Sarkar N. The impact of intimate partner violence on women's reproductive health and pregnancy outcomes. *J Obstet Gynaecol*. 2008; 28: 266–71.
20. Fanslow J, Silva M, Whitehead A, Robinson E. Pregnancy outcomes and intimate partner violence in New Zealand. *Aust N Z J Obstet Gynaecol*. 2008; 48: 391–7.
21. Coker AL, Sanderson M, Dong B. Partner violence during pregnancy and risk of adverse pregnancy outcomes. *Paediatr Perinat Epidemiol*. 2004; 18: 260–9.
22. Ronsmans C, Khlat M. Adolescence and risk of violent death during pregnancy in Matlab, Bangladesh. *Lancet*. 1999; 354: 1448.
23. Jasinski JL. Pregnancy and domestic violence. A review of the literature. *Trauma, Violence & Abuse*. 2004; 5: 47–64.
24. Romito P, Escriba-Aguir V, Pomicino L, Lucchetta C, Scrimin F, Molzan TJ. Violence in the lives of women in Italy who have an elective abortion. *Womens Health Issues*. 2009; 19: 335–43.
25. Fisher WA, Singh SS, Shuper PA, et al. Characteristics of women undergoing repeat induced abortion. *CMAJ*. 2005; 172: 637–41.

26. McFarlane J, Parker B, Soeken KL, Bullock L. Assessing for abuse during pregnancy. Severity and frequency of injures and associated entry into prenatal care. *JAMA*. 1992; 267: 3176–8.
27. Jacoby M, Gorenflo D, Black E, Wunderlich C, Eyley E. Rapid repeat pregnancy and experiences of interpersonal violence among low-income adolescents. *Am J Prev Med*. 1999; 16: 318–21.
28. Pinnelli A, Raciopp F, Terzera L. Gender, family and health (Gener, famiglia e salute). Milano: Angeli;2007.
29. European perinatal health report by the EURO-PERISTAT project in collaboration with SCPE, EUROCAT & EURONEOSTAT. Data from 2004 EURO-PERISTAT Project, with SCPE, EUROCAT, EURONEOSTAT. European Perinatal Health Report. 2008. http://www.europeristat.com/2010.
30. Nelson DB, Grisso JA, Joffe MM, et al. Violence does not influence early pregnancy loss. *Fertil Steril*. 2003; 80: 1205–11.
31. Farid M, Karim MS, Hatcher J, Saleem S. Prevalence and social correlates of domestic violence during pregnancy: evidence from a lower income country. *Contraception*. 2007; 76: 169.
32. Lipsky S, Holt VL, Easterling TR, Critchlow CW. Police-reported intimate partner violence during pregnancy and the risk of antenatal hospitalization. *Matern Child Health J*. 2004; 8: 55–63.
33. Silverman JG, Decker MR, Reed E, Raj A. Intimate partner violence victimization prior to and during pregnancy among women residing in 26 U.S. states: associations with maternal and neonatal health. *Am J Obstet Gynecol*. 2006; 195: 140–8.
34. Cokkinides VE, Coker AL, Sanderson M, Addy C, Bethea L. Physical violence during pregnancy: maternal complications and birth outcomes. *Obstet Gynecol*. 1999; 93: 661–6.
35. Pallitto CC, O'Campo PJ. Is intimate partner violence associated with unintended pregnancy? A review of the literature. *Trauma, Violence & Abuse*. 2005; 6: 217–35.
36. Coker AL. Does physical intimate partner violence affect sexual health? A systematic review. *Trauma, Violence & Abuse*. 2007; 8: 149–77.
37. Ramsay J, Richardson JR, Carter YH, Davidson LL, Feder G. Should health professionals screen women for domestic violence? Systematic review. *BMJ*. 2002; 325: 314.
38. Wathen CN, MacMillan HL. Interventions for violence against women: scientific review. *JAMA*. 2003; 289: 589–600.
39. Escribà-Agüir V, Ruiz-Perez I, Saurel-Cubizolles MJ. Screening for domestic violence during pregnancy. *J Psychosom Obstet Gynaecol*. 2007; 28: 133–4.