ORIGINAL ARTICLE

Ascertainment of intimate partner violence using two abuse measurement frameworks

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Objective: To estimate prevalence of intimate partner violence (IPV) according to two abuse ascertainment tools, and agreement between the tools.

Methods: 2504 women randomly selected from a health maintenance organization were asked about IPV exposure in their most recent intimate relationship using five questions on physical and sexual abuse, and fear due to partner's threats and controlling behavior from the Behavioral Risk Factor Surveillance Survey (BRFSS) and 10 questions from the Women's Experience with Battering (WEB) scale. IPV prevalence was estimated according to the BRFSS and WEB, and the proportion of women who were WEB+/BRFSS+, WEB-/BRFSS-, WEB-/BRFSS+, and WEB+/BRFSS-.

Results: In their most recent relationship, 14.7% of women reported abuse of any type on the BRFSS versus 7.0% on the WEB scale. In direct comparisons of the WEB and BRFSS questions, a higher percentage of abused women reported any IPV on the five BRFSS questions (88.4%) compared to the 10 WEB questions (42.0%). However, both the BRFSS and WEB identified some women as abused that would have been missed by the other instrument.

Conclusions: Intimate partner violence prevalence depends on how women are asked about abuse. Resources permitting, more than one abuse ascertainment strategy (for example, both the BRFSS and WEB questions) should be tried in order to broadly identify as many women as possible who interpret themselves as abused.

A goal of intimate partner violence (IPV) ascertainment tools is to include comprehensive definitions of IPV that facilitate women's interpretations of abusive situations. This goal is essential because tools which use narrow definitions—for example, those that inquire about exposure to physical assault only—could miss women who experience other types of abuse tactics (for example, name calling, threats) in the absence of physical assault.

Three approaches have been used in clinical and research settings to assess IPV. The first approach assesses exposure to abusive behavioral tactics (for example, did your partner hit or kick you?).^{1–3} The second approach asks women outright about “abuse”—for example, did your partner physically abuse you?^{4–6} The third approach assesses the impact of IPV on women's lives—for example, do you feel owned and controlled by your partner?^{7–11}

The behavioral tactic approach has been criticized because it includes a limited range of abuse tactics and excludes others;^{12–14} while the outright approach may be limited because it requires women to label their experience as “abuse”. The impact approach is thought to be less intrusive for ascertaining IPV because it does not require women to label themselves (and their partners) and does not limit the IPV definition to behavioral tactics. However, published evidence on the concordance of the impact approach with other ascertainment approaches is mixed. Coker and colleagues suggest that the Women's Experience with Battering (WEB) scale, a 10 item instrument that uses the impact approach, identifies 45% more women than a tool that uses the behavioral tactic approach to assess physical IPV.⁸ However, sensitivity of a single item that asked women about feeling safe in their intimate relationship was low, ranging from 8.8%¹¹ to 48.0%¹⁰ compared to behavioral tactic IPV tools.

The present investigation used data from 2504 insured women in Washington State to evaluate agreement between five behavioral tactic abuse questions from the Behavioral Risk Factor Surveillance Survey (BRFSS)^{15–29} and 10 impact questions from the WEB scale.^{7–9} It is the first study to date to evaluate the relation between abuse questions from the BRFSS and WEB instruments, and provides information on how IPV prevalence varies depending on how women are asked about abuse.

METHODS

Study sample and data collection

Telephone interviews were conducted with 2662 randomly selected women aged 18–64 years enrolled for at least three years at Group Health Cooperative (GHC). GHC is a consumer governed, staff-model health maintenance organization providing health services to more than 500 000 enrollees in Washington State. To protect the safety of women, the recruitment letter mailed to women described the study as focusing on women's health. Consent to participate was obtained on the telephone and women were offered a \$25 gift card to complete the survey. The response rate was 57.8% (Bonomi *et al*, unpublished). Respondents were slightly older (mean age 45.3 years) than non-respondents (43.1 years) ($p < 0.01$). The present analysis excluded women who had never been in an intimate partnership (110), and women who resided outside of Washington State (48), resulting in an analytic sample of 2504 women. Study methods were approved by GHC's human subjects review committee.

Abbreviations: BRFSS, Behavioral Risk Factor Surveillance Survey; GHC, Group Health Cooperative; IPV, intimate partner violence; WEB, Women's Experience with Battering.

Table 1 Women's experience with battering scale

Measure	Questions/scale	Content
WEB scale	10 questions; 1 (strongly disagree) to 6 (strongly agree)	<p>My partner made me feel unsafe even in my own home</p> <p>I felt ashamed of the things my partner did to me</p> <p>I tried not to rock the boat because I was afraid of what my partner might do</p> <p>I felt like I was programmed to react a certain way</p> <p>I felt like my partner kept me a prisoner</p> <p>My partner could scare me without laying a hand on me</p> <p>I hid the truth from others because I was afraid not to</p> <p>I felt owned and controlled by my partner</p> <p>My partner made me feel like I had no control over my life</p> <p>My partner had a look that went straight through me and terrified me</p>

MEASURES

Characteristics of women

Women reported information about their age and other sociodemographic indicators, and exposure to physical or sexual abuse or witnessing IPV before age 18.

Intimate partner violence ascertainment

Two instruments were used to assess IPV: the Women's Experience with Battering (WEB) scale and five questions from the Behavioral Risk Factor Surveillance Survey (BRFSS). Women were administered the WEB first and then the BRFSS questions, in order to reduce response bias associated with being asked about specific abuse tactics before the impact of violence on women's lives.

WEB scale

The 10 item WEB scale assessed women's perceived loss of power and control resulting from interactions with an abusive partner (table 1). For the WEB, women were asked to name their three most recent (including current) intimate partners, and then asked the WEB questions for each of those partners. Only WEB data for women's most recent partner were used in the present study, in order to match these data to the BRFSS questions described below, and to capture abuse that occurred in women's most recent relationship. The WEB uses a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree); WEB scores greater than or equal to 20 (range 10–60) denoted exposure to abuse.^{7,8}

BRFSS questions

Five questions using a yes/no response scale from the BRFSS assessed women's exposure to physical IPV (one question), forced intercourse (one question), sexual contact without intercourse (one question), fear because of a partner's anger or threats (one question), and put downs, name calling, or controlling behavior (one question) (table 2). Women were asked whether they *ever* experienced any of the IPV types in the BRFSS and then whether the abuse occurred with their

most recent partner for which WEB data were also collected. Women who responded "yes" to any of the BRFSS questions for their most recent partner were classified as having "any abuse" on the BRFSS. Women who responded affirmatively to any of the specific BRFSS abuse types (sexual, physical, fear due to threats, or controlling behavior) were considered exposed to that abuse type. Women were considered exposed to sexual abuse if they reported either sexual abuse type on the BRFSS. Although "put downs, name calling, and controlling behavior" and "fear due to threats" questions measure aspects of psychological violence, we retained them as separate categories. We did so because the fear due to threats question is most conceptually aligned with the WEB questions and therefore should overlap with the WEB.

Analytic methods

Intimate partner violence frequency was estimated according to the WEB and BRFSS, and agreement between the WEB and BRFSS was assessed. For all BRFSS categories, we estimated the proportion of women who reported IPV on

Table 3 Characteristics of women (n = 2504)

Age, mean (SD)	46.2 (11.6)
Number in household, mean (SD)	2.94 (1.46)
White race/ethnicity	2067 (82.7%)
Hispanic ethnicity	100 (4.0%)
Have current intimate partner	2061 (82.3%)
Married	1617 (64.6%)
Completed some college or more	2166 (86.6%)
Employed	2023 (80.9%)
Annual income	
<\$25,000	264 (10.9%)
\$25,000–\$50,000	684 (28.2%)
\$50,000–\$75,000	643 (26.5%)
>\$75,000	836 (34.5%)
Children in home	846 (33.8%)
Single parent for children <18 years	102 (4.1%)

Table 2 Behavioral risk factor surveillance survey questions

Measure	Questions/scale	Content
BRFSS	5 questions; yes/no response scale	<p><i>Sexual</i></p> <p>Now I want to ask you about forced sex involving vaginal, oral, or anal penetration. Has an intimate partner ever forced you to participate in a sex act against your will?</p> <p>Has an intimate partner ever threatened, coerced, or physically forced you into any sexual contact that did not result in intercourse or penetration?</p> <p><i>Physical</i></p> <p>Has an intimate partner ever hit, slapped, shoved, choked, kicked, shaken, or otherwise physically hurt you?</p> <p><i>Psychological</i></p> <p>Have you ever been frightened for your safety, or that of your family or friends because of the anger or threats of an intimate partner?</p> <p>Has an intimate partner ever put you down, or called you names repeatedly, or controlled your behavior?</p>

Table 4 Intimate partner violence frequency via WEB and BRFSS

	(n = 2504)	
	n	%
WEB		
Scores ≥ 20	174	7.0
BRFSS		
Any	367	14.7
Sexual (yes on either sex question)	51	2.0
Physical	197	7.9
Fear due to anger or threats	165	6.6
Controlling behavior	246	9.8

both the WEB and BRFSS, the proportion who reported on IPV on either, and the proportion who were WEB(+)/BRFSS(−) and WEB(−)/BRFSS(+).

RESULTS

Characteristics of women

The mean age of women was 46.2 years, and 82.7% reported white race (table 3). More than 80% of women were in a current intimate relationship and 64.6% were married. Most had at least some college education, 80.9% were employed, and 61.0% reported an annual income of \$50,000 or higher.

Intimate partner violence frequency

The prevalence of IPV in women's most recent partnership was 14.7% according to the BRFSS questions and 7.0% according to the WEB survey (table 4).

Agreement between the WEB and BRFSS

Table 5 compares women's responses to the WEB and the BRFSS questions. Abused women were more likely to report any IPV on the five BRFSS questions compared with the 10 WEB questions. For example, in row 1 of table 5, of the 414 women who reported any abuse, 88.4% (366/414) reported abuse according to the "BRFSS any" category compared with 42.0% (174/414) on the WEB. This pattern was consistent when comparing the BRFSS physical and controlling behavior abuse types to the WEB, but not for the BRFSS sexual and fear due to a partner's threats questions. For example, the WEB identified 92.5% of abused women (174/188) compared with the BRFSS sexual question (27.1% of women).

Both the BRFSS and WEB questions identified some women as abused who were missed by the other instrument. For example, among abused women, 57.9% (240/414) reported any abuse on the BRFSS but not the WEB, versus 11.5% (48/414) on the WEB but not the BRFSS. In another example of comparisons of single BRFSS questions to the WEB, the WEB identified 35.2% of abused women who were not identified by the BRFSS question on fear due to a partner's anger or threats.

DISCUSSION

Using a behavioral tactic based measurement approach (five BRFSS questions), the prevalence of intimate partner violence in women's most recent relationship was 14.7%. Prevalence was lower (7.0%) when an impact measurement approach (the Women's Experience with Battering scale) was used. In direct comparisons of the WEB to the BRFSS questions, a higher percentage of abused women reported any IPV on the five BRFSS questions (88.4%) compared with the 10 WEB questions (42.0%). However, both the BRFSS and WEB identified some women as abused that would have been missed by the other instrument. Of note, the WEB identified 35.2% of women as abused who were not identified

Table 5 Agreement between the WEB and BRFSS

	(n = 2499*)	
	n	%
WEB to BRFSS any		
WEB +/BRFSS+	126	5.0
WEB +/BRFSS−	48	1.9
WEB−/BRFSS+	240	9.5
WEB−/BRFSS−	2085	83.2
WEB to BRFSS sexual†		
WEB +/BRFSS+	37	1.5
WEB +/BRFSS−	137	5.5
WEB−/BRFSS+	14	0.5
WEB−/BRFSS−	2311	92.3
WEB to BRFSS physical		
WEB +/BRFSS+	73	2.9
WEB +/BRFSS−	101	4.0
WEB−/BRFSS+	124	4.9
WEB−/BRFSS−	2201	87.8
WEB to fear due to threats		
WEB +/BRFSS+	84	3.3
WEB +/BRFSS−	90	3.5
WEB−/BRFSS+	81	3.2
WEB−/BRFSS−	2244	89.6
WEB to controlling behavior		
WEB +/BRFSS+	113	4.5
WEB +/BRFSS−	61	2.4
WEB−/BRFSS+	132	5.2
WEB−/BRFSS−	2193	87.5

*Five women did not have complete WEB data for partner one.

†Exposure to forced intercourse or sexual contact that did not result in intercourse.

by the single BRFSS question on fear due to a partner's threats. Our results indicate variations in IPV prevalence depending on how women are asked about abuse, and—resources permitting—more than one abuse ascertainment strategy (for example, the WEB and the BRFSS questions) should be tried in order to facilitate women's interpretations of abusive situations.

The present investigation included data from a large, population based sample of insured, educated, and employed women who provided detailed information about exposure to intimate partner violence defined within the impact and behavioral tactic frameworks. Because of our large sample, we were able to make comparisons between the BRFSS and WEB questions answered by women in reference to their most recent partner.

Our response rate of 57.8% is consistent with other telephone based abuse ascertainment studies.^{20–23} Nonetheless, respondents could differ from non-respondents on key sociodemographic factors and abuse reporting patterns. We were unable to examine these potential differences due to the limitations of our data. Women were insured for at least three years during a 10 year period. Women who were not consistently insured may have different abuse patterns. In a small test sample of women enrolled for less than three years, we found higher rates of abuse. However, the number of women in this subgroup was too small to evaluate patterns of response to the BRFSS and WEB. Because the women in our study were insured, mostly employed, and mostly college educated, we caution against generalizing results from our study to Washington State women.

Our finding that the five BRFSS questions on physical, sexual, and psychological abuse tactics identified more women as abused than the 10 WEB questions deserves explanation. We believe that because the BRFSS provides a broad descriptive basis of abuse—abuse strategies ranging from name calling to rape—women may find it easier to agree (or disagree) with concrete abusive tactics that they have experienced in their relationship. Although the WEB's

Key points

- IPV prevalence depends on how women are asked about abuse.
- 14.7% of women reported abuse of any type in their most recent relationship using the BRFSS questions (which inquire about exposure to abusive behaviors), versus 7.0% of women on the WEB scale (which assesses disempowerment and fear related to abuse exposure).
- Both the BRFSS and WEB questions identified some women as abused that would have been missed by the other instrument.
- Resources permitting, more than one abuse ascertainment strategy (for example, both the BRFSS and WEB questions) should be tried in order to broadly identify as many women as possible who interpret themselves as abused.

focus on fear and disempowerment may be a less threatening way of asking about underlying abuse, not all women in abusive partnerships may feel or report being afraid or disempowered as a result. This said, it is noteworthy that the WEB identified some women as abused who were missed by the BRFSS questions, suggesting that the WEB covers definitional aspects of IPV that are not captured in the BRFSS questions.

In clinical and research settings, the five BRFSS questions which use a yes/no binary response scale may be easier to administer and, based on our study findings, may yield a higher proportion of women as abused. The WEB consists of 10 questions, requires a more complicated scoring method, and did not identify as many women as abused as the five BRFSS questions. Thus, depending on the clinical or research purpose at hand, the WEB may be less desirable for routine use in health settings.

Our investigation indicates variations in IPV prevalence depending on how women are asked about abuse. Resources permitting, our investigation also points to the need to consider asking women about abuse using more than one measurement strategy, in order to identify as many women as possible who interpret themselves as abused. Future research could examine variations in abuse reporting on the WEB and BRFSS surveys based on factors such as age, education, and race/ethnicity.

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