

# An Intervention to Increase Safety Behaviors of Abused Women

## Results of a Randomized Clinical Trial

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- ▶ **Background:** Although intimate partner violence is recognized as a major threat to women's health, few interventions have been developed or tested.
- ▶ **Objective:** To test an intervention administered to abused women in order to increase safety-seeking behaviors.
- ▶ **Method:** A two-group clinical trial randomized 75 abused women to receive six telephone intervention sessions on safety behaviors. A control group of 75 women received standard care. Women in both groups were re-interviewed at 3 months and 6 months post-initial measurement.
- ▶ **Results:** Using repeated measures analysis of variance (ANOVA), we found significantly [F (2,146) 5.11,  $p = .007$ ] more adopted safety behaviors reported by women in the intervention group than by women in the control group at both the 3-month [F (91,74) = 19.70,  $p < .001$ ] and 6-month [F (1,74) = 15.90,  $p < .001$ ] interviews. The effect size (ES) of the intervention was large at 3 months (ES = 1.5) and remained substantial at 6 months (ES = 0.56).
- ▶ **Discussion:** These findings demonstrate that an intervention to increase safety behaviors of abused women is highly effective when offered following an abusive incident and remains effective for 6 months.
- ▶ **Key Words:** abuse • intervention • randomized clinical trial • safety • women

A vast amount of research documents the type and extent of health problems related to physical and sexual abuse of women by their intimate partner, including acute trauma and long-term chronic health problems (Bureau of Justice Statistics, 1997; Greenfield et al., 1998; McCauley, Kern, Kolodner, Derogatis, & Bass, 1998). Equally vast are the reports on increased healthcare utilization by abused women. (Dearwater, et.al., 1999; Lesserman, Drossman, & Hu, 1998). The Bureau of National Affairs (1990) estimates the medical costs related to domestic violence injuries at \$3 to \$5 billion a year. Wisner (1999) found an annual difference of \$1,775 more spent for victims of domestic violence compared to a random sample of general female patients.

The urgency and magnitude of intimate partner violence have caused service providers, policy makers, and advocates to implement treatment and intervention programs in the absence of scientific evidence (Chalk, 2000). This urgency has resulted in a broad array of interventions, many with origins in local and national advocacy efforts (e.g., shelters and social support programs) and as such remains mostly undocumented and unanalyzed in the research literature. Control or comparison groups are rare in family violence research and, if one exists, the sample is frequently too small to detect significant differences. To advance family violence research, Chalk and King (1998)

Intimate partner violence is identified as a significant public health problem in the United States (US) with a specific national objective to reduce the rate of intimate partner physical assaults 20% by 2010 (US Department of Health and Human Services, 2000). Latest estimates from the National Crime Victimization Survey indicate that in 1998 about 1 million violent crimes were committed against persons by their sexual intimate, with 85% of these victimizations against women. Half of these female victims of intimate partner violence report a physical injury. About 4 in 10 of these women seek medical health assistance (Rennison & Welchans, 2000).

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call for the immediate collaboration of researchers with service providers.

This research evaluates an intervention to increase safety-seeking behaviors of women abused by their intimate partners. The Panel on Research on Violence Against Women, established by the National Research Council, recommends that longitudinal research include cultural and ethnic factors (Crowell & Burgess, 1996), thus, Hispanic, Black, and White women were included. Walker's three-phase cycle theory of violence (1979; 1981; 2002) and Curnow's (1997) open window phase of helpseeking and reality behaviors was used to guide the study design.

### Walker's Theory of Violence and Curnow's Open Window Phase of Helpseeking and Reality Behaviors

Walker's (1979) cycle of violence describes three distinct phases: (a) tension-building phase, (b) acute violent incident, and (c) calm (honeymoon) period. During phase one (tension-building) the abuser becomes moody, hostile, and critical of the woman. The woman usually attempts to calm the batter by becoming nurturing, compliant, or staying out of his way. During phase two (acute violent incident) the abuser physically and psychologically assaults the woman. The woman is severely shaken, frightened, and threatened; and she focuses on survival. The third phase (honeymoon) shortly appears after the assault phase. During this period the abuser expresses sorrow for his actions; behaves in a loving, charming, contrite manner; and promises that the violent behavior will never happen again (Saunders-Robinson, 1991). The calm stage gives the woman hope that her partner is going to change. Throughout the three phases, Walker (1979; 1981) describes characteristic behaviors of the abused woman as denial of the partner's abuse, her injuries, or the existence of alternatives. However, Walker (1979) describes a dramatic change in abused women as they progress from the end of phase two (the violent period) to phase three. During this transition, abused women realistically assess their situation, acknowledge their inability to control or stop the abuser's violence, and express a desire to stop being a victim.

Curnow (1997) tested this transition period and found a period of reality within the cycle of violence, between phase two and three, when denial, avoidant, and dependent behaviors are absent and helpseeking occurs. Curnow conceptualized this period as the open window phase of helpseeking and reality behaviors. Four propositions define this open window phase: (a) realizing victimization and not able to stop the violence; (b) reaching out for help; (c) learning about alternatives to violence; and (d) being receptive to intervention. Curnow's findings agree with other research findings that women are more likely to seek help following a violent episode (Gondolf & Fisher, 1988; McFarlane, Soeken, Reel, Parker, & Silva, 1997; Wiist & McFarlane, 1998). The help most commonly sought by

***Intimate partner violence is identified as a significant public health problem in the United States***

abused women is the justice system, both law enforcement and civil protection orders (Taylor 1995; Greenfield et al., 1998; Tjaden & Thoennes, 2000). Since contact with the justice system (e.g., police contact or application of a civil protection order) usually occurs immediately, or within 24 to 48 hours of a violent incident, abused women seeking a civil protection order should be in transition from phase one to phase two of the Cycle of Violence and Curnow's Open Window Phase.

It was hypothesized that abused women contacting the justice system and receiving an intervention to increase safety-seeking behaviors would report more adopted safety

behaviors at 3 and 6 months following the intervention than a group of abused women who receive usual care.

### Method

#### Design

A two-group randomized control design was followed. Prior to data collection, a power analysis determined the sample size. Using a previous study by McFarlane and associates (1998) that found the safety intervention highly effective with a group of pregnant women, a medium treatment effect was predicted. To detect a medium treatment effect size of .45 with 80% power, 60 women were needed in each group (Lipsey, 1990). To allow for 25% attrition, 75 women were recruited for each group.

#### Setting and Sample

The study was conducted at a family violence unit of a large urban District Attorney's Office that serves an ethnically diverse population of three million citizens. The family violence unit primarily processes civil protection orders against a sexual intimate. To qualify for a protection order the person must be 18 years or older and provide evidence of intimate partner assault (i.e., police or witness report, visible injury). Counseling and referral information is offered to each applicant. All applicants are routinely given the name and phone number of their intake counselor and encouraged to telephone the counselor for further assistance. There are no fees to the applicant for the services. The office is open from 8:00 A.M. to 5:00 P.M., Monday through Friday. Appointments are not taken and everyone is served on a first come, first served basis.

All female applicants qualifying for a protection order against a sexual intimate, and who spoke English or Spanish were invited into the study by one of the six investigators. One investigator was present at the unit each day. Sampling with randomization to treatment or control group continued for 28 days until 75 women were entered into the control group and 75 women entered into the treatment group. A total of 154 women qualified for the study and were invited to participate. Four women refused to participate. The primary reason given for refusal to enter the study was pain from physical injuries. One woman committed sui-

cide 3 weeks into the study. All remaining 149 women completed the 3- and 6-month follow-up interviews.

**Instruments**

**Demographic Data Form.** This form was used to document age, education, self-identified race/ethnicity, relationship to the abuser, and primary language. This form also included the names, addresses, and phone numbers of safe contacts (e.g., family members, friends, neighbors, and employers) for each woman in order to facilitate follow-up interviews.

**Safety Behavior Checklist.** This 15-item safety survey was administered to assess for present use of safety behaviors and chart future adoption (Figure 1). At the first assessment, the women were asked "Have you EVER...?" At subsequent sessions, the women were asked "Since the last time we talked, have you...?" The safety behavior checklist was initially described in *Abuse during pregnancy: A protocol for prevention and intervention*, (McFarlane & Parker, 1994) and since has been used and proven effective in a clinical trial with pregnant abused women (McFarlane, Parker, Soeken, Silva, & Reel, 1998; Parker McFarlane, Soeken, Silva, & Reel, 1999).

To score the Safety Behavior Checklist, an adjustment procedure was used. Because not all behaviors were applicable for each woman, the total number of behaviors was adjusted to facilitate interpretation and comparison. The total number of behaviors performed was adjusted so that

each woman's total fell within the range of zero behaviors performed (0) and all behaviors performed (15). The adjusted total behaviors performed were computed by multiplying each woman's percent of applicable behaviors by 15 and dividing by 100%. For example, if a woman (a) was single, (b) did not own a weapon, an insurance policy, or a bank account; and (c) practiced all but one applicable behavior, her total score would equal 10. Her percent of applicable behaviors is  $10/11 = 90.9\%$  and adjusted total number of behaviors performed is  $90.9\% \times 15/100\% = 13.6$ . Assume a second woman also performed 10 behaviors, however, all but one behavior was applicable. Therefore the second woman's percent of applicable behavior is  $10/14=71.4\%$  and adjusted total number of behaviors performed is  $71.4 \times 15/100\% = 10.7$ . Although both women performed the same total number (10) of 10 safety behaviors, one woman performed almost all (90%) applicable behaviors whereas the second woman performed less than three-fourths (71%) of applicable behaviors. To determine if the adjusted safety behavior scores changed over time, data were analyzed using a repeated measures analysis of variance (RM ANOVA) with one between-groups factor.

**Procedures**

Data collection began after institutional review board approval was received and agency consent was obtained. Women meeting study criteria were escorted to a private room where the investigator provided an explanation of

Ask the woman to answer YES, NO, or NOT APPLICABLE	Yes / Si	No	NA
<b>Have you ever: ¿En alguna ocasión usted ha</b>			
Hidden money / Escondido dinero?	_____	_____	_____
Hidden extra set of house and car keys / Escondido un juego extra de las llaves a la casa y/o al coche?	_____	_____	_____
Established code with family or friends / Establecido un código para usar con su familia o con sus amigos?	_____	_____	_____
Asked neighbors to call police if violence begins / Pedido a sus vecinos que llamaran a la policia si empieza la violencia?	_____	_____	_____
Removed weapons / Quitado armas?	_____	_____	_____
<b>Had available: Tenido a su disposición</b>			
Social Security Number (yours, his, children) / El número de seguro social (de usted, del abusador, de sus hijos)?	_____	_____	_____
Rent and utility receipts / Los recibos de la renta o de la luz/el agua/el gas?	_____	_____	_____
Birth certificates (yours and children) / Los actas de nacimiento (de usted y de sus hijos)?	_____	_____	_____
ID or Driver's license (yours and children) / El ID o la licencia para manejar (de usted y de sus hijos)?	_____	_____	_____
Bank account numbers / Los números de las cuentas bancarias?	_____	_____	_____
Insurance policies and numbers / Los números y pólizas de aseguranza?	_____	_____	_____
Marriage license / El acta de matrimonio?	_____	_____	_____
Valuable jewelry / Unas joyas de valor?	_____	_____	_____
Important phone numbers / Los números de teléfono importantes?	_____	_____	_____
Hidden bag with extra clothing / Una bolsa escondida con ropa extra?	_____	_____	_____

FIGURE 1. Safety Behavior Checklist.

the study purpose, protocol, instruments, administration time, and follow-up schedules. Women who agreed to be in the study signed an informed consent form, and the investigators administered the two study instruments. Both instruments were offered in English and Spanish according to the woman's language preference. The woman's safety was ensured for the follow-up telephone interviews by establishing a convenient, private, and safe time for the repeated measure telephone interviews. Women were reimbursed \$20 cash for the first interview, \$30 money order for the 3-month interview and \$40 money order for the 6-month interview. All money orders were mailed to an address that was supplied by the woman and deemed safe and secure. Control group women were given an appointment day and time for the 3-month interview. Intervention group women were given a day and time for the first intervention telephone call.

**Safety Intervention Protocol.** The safety protocol is part of McFarlane's and Parker's abuse prevention protocol (McFarlane & Parker, 1994, McFarlane, Parker, & Cross, 2001). The safety protocol was previously tested and proven extremely effective on an ethnically diverse population of 199 abused Hispanic, Black, and White women attending public prenatal clinics (McFarlane, Parker, Soeken, Silva, & Reel, 1998; Parker, McFarlane, Soeken, Silva, & Reel, 1999).

Women randomized to the intervention group were offered the standard services of the district attorney's office plus six safety intervention telephone calls. The first call occurred within 48 to 72 hours of the initial visit. Remaining calls occurred at 1, 2, 3, 5, and 8 weeks following intake. The investigator that entered the woman into the study completed all follow-up telephone calls. Each call began with the safety behavior checklist, noting behaviors adopted since the last contact (Figure 1). Strategies for adopting safety behaviors were discussed. For example, women were given information on making extra keys, obtaining copies of birth certificates or a marriage license; and applying for a driver's license. The importance of possessing documents such as rent and utility receipts, Social Security numbers, and birth certificates was discussed. Women were offered suggestions on where to hide money or important documents (e.g., an empty tampon container, with sanitary products, or with a trusted friend, neighbor, or relative). The women were coached in developing a code for use with family and friends to signal the need for assistance, as well as identifying a neighbor who could call the police if an altercation was heard. If weapons were in the house, women were offered strategies for removal and disposing of them with law enforcement officials. The telephone calls ranged in duration from 3 to 25 minutes, with a mean of 9 minutes per call. The safety intervention ended with the sixth telephone call, 8 weeks after the initial entry into the study. At the 3-month and 6-month follow-up calls, no information on safety was provided to the intervention group women.

***An intervention to increase safety behaviors of abused women is highly effective when offered following an abusive incident***

**Analysis Plan** Group differentiation in demographic characteristics was investigated using independent *t* tests and chi-square tests of independence. Characteristics exhibiting significant group differences were included in subsequent analyses. To determine if the adjusted safety behavior scores changed over time, data were analyzed using a repeated measures analyses of (co)variance (RM ANCOVA) with one between-groups factor. To better understand the group differences in the safety behavior scores, the individual behaviors were examined. Logistic regression analyses were used to investigate group differences in the safety behaviors applicable

to at least 90% of the women. The remaining behaviors were omitted due to possible discrepancies in group characteristics in the smaller groups. To control for inflated type I error due to multiple testing, and maintain the experiment wise error rate of .05, Bonferroni's method of adjustment was used and the alpha rate was spread over the number of tests conducted. To model the increase in applicable safety behaviors adopted by women at each intervention telephone call, a trend analysis was performed using a RM ANOVA.

## Results

Demographics for the intervention and control groups appear in Table 1. With the exception of age, there were no significant differences between groups for highest grade of schooling completed, self-identified racial/ethnic affiliation, relationship to the abuser or language spoken. The retention rate for the duration of the study was 100% for the intervention group and 98.7% for the controls (the woman who committed suicide was in the control group). The average length of time required to apply the intervention was 54 minutes (e.g., six 9-minute phone calls) of professional nursing time.

The means and standard deviations for the adjusted total number of safety behaviors performed, and percentage of women responding "YES" to each safety behavior at Intake, 3 months and 6 months by treatment group are shown in Table 2. The adjusted number of safety behaviors ranged from 1–15, 0–15, and 5.4–15 for intake, 3 months and 6 months, respectively. A RM ANOVA was used to determine group differences in the number of safety behavior practiced at intake, 3 months, and/or 6 months. Results from the evaluation of the RM ANOVA assumptions of normality, linearity, and homogeneity of variances-covariances were satisfactory.

Results from a RM ANOVA showed a significant main effect for time [ $F(2,146) = 9.93, p < .001$ ] and a significant main effect for group [ $F(1,147) = 24.54, p < .001$ ]. Additionally, a significant treatment group by time interaction was observed [ $F(2,146) = 5.11, p = .007$ ], meaning that the change in safety behaviors performed over time was different between the treatment groups. Using ANOVAs, tests of simple effects for time demonstrated significant group differences at 3 months ( $F(1,147) = 29.55, p < .001$ ) and at 6

**TABLE 1. Means, Standard Deviations, Frequencies, Percentages, and Results From *t* Tests and Chi-Square Tests of Independence Between Treatment Groups (Intervention and Control)**

Variable	Intervention (N = 75)		Control (N = 75)		Statistic
	M	(SD)	M	(SD)	
Age	30.25	7.87	34.61	9.91	$t(141) = -2.98, p = .003$
Grade	11.35	2.99	12.20	2.55	$t(148) = -1.88, p = .062$
	N	%	N	%	
Race					
Black	23	30.7	26	34.7	$\chi^2(2) = 0.694, p = .707$
White	19	25.3	21	28.0	
Hispanic	23	44.0	28	37.3	
Relationship					
Spouse/common-law	40	53.3	41	54.7	$\chi^2(3) = 0.706, p = .872$
Ex-spouse/ex-common-law	14	18.7	11	14.7	
Boyfriend/girlfriend	5	6.7	7	9.3	
Ex-boyfriend/Ex-girlfriend	16	21.3	16	21.3	
Language					
English speaking	62	82.7	64	85.3	$\chi^2(1) = 0.198, p = .656$
Non-English speaking	13	17.3	11	14.7	

months ( $F(1,147) = 16.27, p < .001$ ). The women in the intervention group practiced a significantly higher number of safety behaviors at 3 and 6 months. Tests of simple effects for groups demonstrated significant differences between 3 months and intake [ $F(1,74) = 19.70, p < .001$ ] and 6 months and intake [ $F(1,74) = 15.90, p < .001$ ] for intervention group. The intervention women increased the average number of adjusted safety behaviors performed from intake to 3 and 6 months by two behaviors. The effect size (ES) from intake of the intervention was large at 3 months (ES = 1.5) and remained substantial at 6 months (ES = 0.56). Similarly, the ES between the groups was large at 3 months (ES = .91) and remained substantial at 6 months (ES = 0.64) with the intervention practicing more behaviors. Adjusting for age, a RM ANCOVA yielded a non-significant effect for age while retaining the significance for time, group, and the time by group interaction. The inclusion of an age by group interaction in a second ANCOVA yielded nonsignificant findings for the main effect of age and the age by group interaction while the other terms remained unchanged. Therefore, only the results unadjusted for age were reported.

Logistic regression analyses (LRA) were performed on 10 behaviors applicable to 90% of the women (Table 2, Behaviors 1–10). Due to the 30 tests completed (10 behaviors at three time periods), Bonferroni adjustment yielded a significance level of .002 (i.e.,  $.05/30 = .00167$ ). Results from the LRA yielded no significant treatment group (intervention or control) differences among the applicable individual safety behaviors performed at baseline. At 3 months, results from LRA yielded significant group differences for 4 behaviors. Significantly more intervention group women reported hiding keys ( $\Pi^2 = 27.72, df = 1, p < .001$ ), hid-

ing clothes ( $\Pi^2 = 24.89, df = 1, p = .001$ ), establishing a code with others ( $\Pi^2 = 35.24, df = 1, p < .001$ ), and asking neighbors to call the police ( $\Pi^2 = 11.38, df = 1, p = .001$ ). At 6 months, three safety behaviors, hiding keys ( $\Pi^2 = 13.38, df = 1, p < .001$ ), clothing ( $\Pi^2 = 10.32, df = 1, p = .001$ ), and asking neighbors to call the police ( $\Pi^2 = 9.92, df = 1, p = .0016$ ), remained significantly higher for the intervention group. At 6 months, hiding money ( $\Pi^2 = 11.45, df = 1, p < .001$ ) was also significantly higher for the intervention women. The LRA was adjusted for the main effect of age, however, age did not significantly contribute to the model. Results from a second model, including a main effect for age and an age by group interaction, yielded non-significant findings associated with age. Therefore, only the unadjusted LRA was reported.

Using a RM ANOVA, a trend analysis was performed to model the increase in the number of applicable safety behaviors adopted by women at each intervention telephone call. Results indicated a significant main effect for time [ $F(6,444) = 91.24, p < .001$ ], and particularly a significant [ $F(1,74) = 69.48, p < .001$ ] quadratic trend. With the quadratic trend, the number of adopted safety behaviors increased sharply for the first four phone calls and then increased slightly for the remaining calls (Figure 2). Initially, 10.4 (69%) of the applicable safety behaviors were performed at intake but by week 8 of the intervention, 13.9 (92%) of the behaviors were adopted.

## Discussion

Using Curnow's "open window phase" (1997), this study was undertaken to determine whether an intervention, offered when abused women seek justice help for abuse,

**TABLE 2. Total Number of Safety Behaviors Performed and Percentage of Women Responding "YES" to Safety Behaviors at Intake, 3 Months, and 6 Months by Treatment Group (Intervention and Control)**

	Intervention Group						Control Group					
	Intake		3 Months		6 Months		Intake		3 Months		6 Months	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Total Number of Behaviors Performed (Adjusted)<sup>a</sup></b>	<b>10.4</b>	<b>2.8</b>	<b>12.5</b>	<b>2.9</b>	<b>11.9</b>	<b>2.5</b>	<b>9.6</b>	<b>3.1</b>	<b>9.9</b>	<b>2.8</b>	<b>10.4</b>	<b>2.2</b>
<b>Individual Behaviors</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>	<b><i>N<sup>b</sup></i></b>	<b>%</b>
1. Hid money	75	68.0	75	60.0	75	62.7*	75	60.0	74	37.8	74	35.1
2. Hid keys	74	52.7	75	76.0*	74	68.9*	75	53.3	74	33.8	74	39.2
3. Established code	75	30.7	75	74.7*	75	60.0	75	22.7	74	27.0	74	43.2
4. Hid extra clothing	75	37.3	72	73.6*	74	52.7*	75	42.7	73	32.9	74	27.0
5. Asked neighbors to call police	75	49.3	74	73.0*	74	66.2*	75	32.0	74	45.9	74	40.5
6. Social Security number	73	93.2	73	93.2	70	100.0	75	89.3	74	93.2	74	98.6
7. Receipts	73	75.3	67	95.5	66	89.4	74	70.3	72	84.7	68	80.9
8. Birth certificate	75	84.0	75	90.7	75	93.3	75	77.3	73	90.4	74	93.2
9. Driver's license	75	93.3	75	93.3	75	97.3	75	94.7	73	95.9	74	98.6
10. Telephone numbers	75	96.0	75	98.7	75	100.0	75	90.7	74	97.3	74	100.0
11. Removed weapons	40	50.0	17	70.6	13	38.5	59	40.7	21	23.8	17	5.9
12. Bank account numbers	58	81.0	53	94.3	53	96.2	63	76.2	55	85.5	54	94.4
13. Insurance policy number	55	70.9	52	90.4	58	89.7	63	68.3	57	84.2	58	94.8
14. Marriage license	38	71.1	39	92.3	39	84.6	49	63.3	41	73.2	35	80.0
15. Valuable jewelry	61	78.7	58	84.5	62	83.9	73	74.0	64	75.0	66	80.3

<sup>a</sup>Significant Main Effect for Time: ( $F(2,146) = 9.93, p < .001$ , group ( $F(1,147) = 24.54, p < .001$ ) & Group  $\times$  Time Interaction ( $F(2,146) = 5.11, p = .007$ ) based on results from a repeated measures analysis of variance. Significant difference between 3 months and intake ( $F(1,74) = 19.70, p \leq .001$ ) and 6 months and intake ( $F(1,74) = 15.90, p \leq .001$ ) for Intervention Group only & Significant group differences at 3 months ( $F(1,147) = 29.55, p < .001$ ) and at 6 months ( $F(1,147) = 16.27, p < .001$ ) indicated tests of simple effects.

<sup>b</sup>*N* refers to number of women for which behavior is applicable; % refers to percentage of women performing applicable behaviors based on a logistic regression analysis of first 10 behaviors (shaded area *not* included).

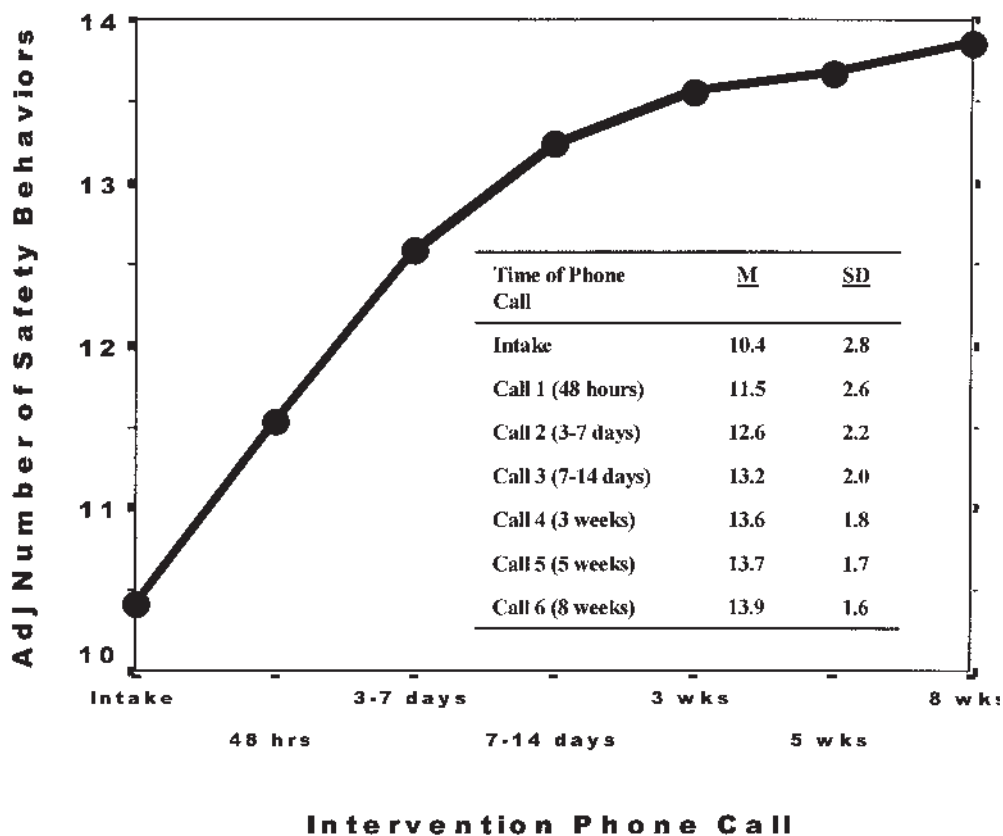
\*( $p \leq .002$ ) refers to a significant difference between intervention and control groups.

would be effective in significantly increasing the number of safety-seeking behaviors. The hypothesis was supported. Adoption of safety behaviors significantly increased for women in the intervention group. The effect of the intervention was large at 3 months ( $ES = 1.5$ ) and remained substantial at 6 months ( $ES = 0.56$ ). The decrease in effect size (measured at 6 months) may indicate the need for an additional intervention session(s) or the data may indicate a ceiling effect of the intervention.

The significant increase in adopting additional safety-seeking behaviors from one telephone session to the next is impressive. Within the first 7 days of the intervention period, the mean number of safety behaviors performed increased by more than two (10.4 to 12.6) with an increase of applicable behaviors performed (69% to 84%). Many of the safety behaviors require great effort and major risk taking. For example, the seemingly simple act of making an extra key requires the steps of obtaining the key (many abusers keep house and car keys on a ring attached to a belt worn at all times), locating and securing transporta-

tion to a key duplication site (for several women this meant identifying a trusted person from whom to request transportation or learning and completing lengthy bus transfers from their homes), and returning the key to its original location without the abuser's knowledge (women reported securing and copying the key while the abuser slept). Despite these difficulties, the women were eager to share stories of their success (i.e., telling a neighbor about the abuse and asking the person to phone the police if they lower their kitchen window shade which normally remained up). Women devised creative codes to use with family and friends to alert them to potential violence (i.e., transposed birth date, asking about a deceased relative, requesting a food item to which they had an allergy). Removing weapons and hiding a bag with extra clothing can be dangerous. However, more than 70% of the intervention women reported adopting these behaviors.

The safety behaviors that some intervention women adopted at 3 months but no longer practiced at 6 months (i.e., hiding keys and a bag with extra clothing as well as



**FIGURE 2.** Mean adjusted number of safety behaviors per each intervention telephone call over 8 weeks.

establishing a code with others and asking neighbors to call the police) are of concern. As the time interval increased since the violent episode for which the woman sought help, some women reported, “feeling safer” and did not feel the need to practice all the safety behaviors. Many women reported moving to a new residence and wanting to “forget the past,” deciding not to inform new neighbors about past violence or ask for assistance should an altercation be heard.

These statements of perceived safety, although anecdotal, are especially alarming if the woman considers the abuser a former partner. Research documents divorced or separated women report up to four times more intimate partner violence than do married women (Dobash & Dobash, 1984; Stark & Flitcraft, 1988; Ellis & DeKeseredy, 1989). Also, interviews with men who have killed their wives indicate that either threats of separation by their partner or completed separation are most often the precipitating events that lead to the murder (Bernard & Bernard, 1983; Daly & Wilson, 1988). Clearly, a decrease in practiced safety behaviors at 6 months indicates a closing of Curnow’s open window phase and supports the need for an additional intervention(s) to maintain safety-seeking behaviors. Women should be advised of the increased potential for violence following a separation from the abuser and the continued need for safety behaviors.

These results indicate the longer the time interval after the abusive incident, the less likely women are to adopt safety behaviors. If a violent episode occurred recent to a healthcare interaction and clinical screen for intimate partner violence, the safety intervention tested herein can be effective. However, the length of time after the violent

episode this intervention can be applied with expected results is unknown. Urgent replication research is needed to measure the effectiveness of this safety intervention in a variety of clinical settings including prenatal, emergency, primary, and chronic care, and associated effectiveness relative to the last violent episode. Correlates such as relationship status (current versus former), type, frequency, and severity of violence, and previous help seeking action-should also be considered in future replication research.

The high retention rate of the women in the study is directly attributed to the systemized tracking methodology using the women’s safe contact information supplied at intake. The alternate contact persons were telephoned when a woman’s telephone number or address changed. Additionally, if all telephone and written contacts with the women failed, the researchers used the field community tracking strategies outlined by Block, McFarlane, Walker, and Devitt (1999).

In this randomized clinical trial of a safety intervention for abused women these findings clearly demonstrate that an intervention to increase safety behaviors of abused women is highly effective when offered following an abusive incident. The effectiveness of the safety intervention remains substantial at 6 months. The low intensity of the intervention makes it feasible to be integrated into a variety of healthcare settings in both urban and rural settings. ▀

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