Effects of South African Men's Having Witnessed Abuse of Their Mothers During Childhood on Their Levels of Violence in Adulthood

Naeemah Abrahams, PhD, RN, RM, MPH, and Rachel Jewkes, MD, MBBS, MSc, MFPHM

South Africa experiences high levels of violent crime. Statistics collected by Interpol indicate that rates of rape, murder, robbery, and violent theft are higher than in any other Interpol member state. Analyses of as-yetunpublished data collected by the Medical Research Council in 2004 for the National Study of Female Homicide in South Africa indicate that the rate of homicides of women aged 14-29 years was 17.6 per 100 000. This rate is substantially higher than those for women aged 10-29 years in the World Report on Violence and Health; in that 76-country study, the highest rate, 11.9 per 100 000, was observed in Colombia.2 The South African study showed that in 1999, 8.8 women per 100 000 aged 14 years or older were murdered by a current or ex-husband or boyfriend,3 a rate 6 times higher than that in the United States⁴ and Australia.⁵

Research on intimate partner violence in South Africa has shown that 1 in 4 women in the general population have experienced physical violence⁶ at some time in their lives, a rate comparable to rates reported in the United States (22%)⁷ and Canada (29%).⁸ Among women who attend antenatal clinics and young women aged 17–23 years, the prevalence doubles,^{9–11} reaching levels observed in the general populations of countries with the highest rates, including Papua New Guinea (67%), Turkey (58%), Bangladesh (47%), and Ethiopia (45%).¹²

Violence is a widely accepted means of resolving conflict in South African society. This acceptability has been contested by the government and civil society groups, and the government has enacted laws criminalizing intimate partner violence and corporal punishment in schools. Nonetheless, widespread use of violence in South Africa in many different circumstances suggests that, if not condoned legally, it is normative and generally Objectives. We sought to assess the effects of witnessing violence against their mothers in childhood on men's use of violence in a range of settings in adulthood. *Methods.* We conducted a cross-sectional questionnaire survey of 1368 randomly selected male municipal workers in Cape Town, South Africa.

Results. Almost a quarter (23.5%; 95% confidence interval [CI]=21.2, 25.7) of the men reported witnessing abuse of their mother, and having witnessed such events was associated with men's later involvement in physical conflicts in their community (odds ratio [OR]=1.72; 95% CI=1.29, 2.30) and at their place of work (OR=1.83; 95% CI=1.30, 2.58), use of physical violence against their partners (OR=2.61; 95% CI=1.94, 3.54), and arrest for possession of illegal firearms (OR=2.86; 95% CI=1.29, 6.32).

Conclusions. Our results show strong links between "publicly" violent behavior among men and childhood experiences of "private" violence against their mothers. Prevention of domestic violence is essential both in its own right and as part of efforts to reduce broader violence and crime in society. (*Am J Public Health*. 2005;95:1811–1816. doi:10.2105/AJPH.2003.035006)

accepted by communities. Violence is used as a form of punishment, an expression of anger, and a means of gaining and asserting power, and it can be observed in disputes between neighbors, ^{6,13} in disputes occurring in work-places 14 and health care settings, ¹⁵ and in schools, where, even though it is now illegal, corporal punishment is still very common. ¹⁶

Research on violence committed against intimate partners has shown that many people, including women, regard such violence as acceptable if it does not injure or leave a mark.¹⁷ In a survey conducted among female residents of 3 provinces in South Africa, more than a third of the respondents agreed that a man beating a woman was a sign of love.⁶ In this regard, South Africa is similar to many patriarchal societies, in which men are traditionally regarded as having a right to inflict physical punishment on their wives.²

In view of the high prevalence of intimate partner violence in South Africa, it is not surprising that much of this violence is witnessed by children in the home. Studies conducted in developed countries have shown that boys who experienced frequent episodes of parental conflict in early childhood are at greater risk of being violent themselves in adolescence and adulthood. ^{18,19} Witnessing of abuse is usually combined with other childhood experiences that negatively affect children's emotional and social functioning, such as harsh discipline, lack of emotional support and affection, and poor parental supervision, all of which have been shown to be associated with subsequent violent behavior. ^{19–22} Young boys' witnessing of abuse of their mothers, however, has been identified as the most consistent risk factor for engaging in intimate partner violence later in life. ^{23–27}

Despite South Africa's high prevalence of intimate partner violence, research on witnessing maternal abuse has not been conducted in South Africa, and further exploration is required to identify the pathways linking the witnessing of maternal abuse to subsequent violence. An opportunity to investigate this issue was provided by a study of men's use of violence against their intimate female partners. Retrospective data were collected on witnessing abuse in childhood as well as current use of violence in adulthood.

We explored the association between childhood exposure to domestic violence and South African men's later use of violence in adulthood, including their use of violence in intimate relationships with women.

METHODS

Study Setting and Sample

We used data from a cross-sectional study of men working in 3 municipalities in Cape Town, South Africa. The study was conducted between June 1998 and February 1999. A computer-generated random sample of 600 men in each municipality (n=1800) was drawn from a list of names of 7271 male employees working in 3 divisions (Civil Engineering, Water and Cleansing, and Parks and Recreation). Because the study focused on heterosexual relationships, only men who reported having had meaningful relationships with female partners in the past 10 years were included. (Men were asked to focus specifically on their relationships with partners in the past 10 years.) Meaningful relationships were defined as those in which the partners "were married, lived together, had a child together, or went out for more than 1 month."

Among the 1800 names generated, 37 were found to be those of women. In addition, 28 men reported not having had any female partners within the past 10 years, 66 refused to participate in the study, 283 were unavailable (as a result of absenteeism or leave), and 18 interviews were not completed. The overall response rate was 78.8%, and our analyses were based on 1368 completed interviews.

Data Collection and Variables

A structured questionnaire administered by face-to-face interview was used to collect data; 6 male interviewers conducted interviews in respondents' language of choice:
Afrikaans (n=973), isiXhosa (n=334), or
English (n=61). The interviewers possessed at least some college-level education in psychology, sociology, or education and resembled the sample in age, race, and language distribution. Their training included exploration of their own perceptions and attitudes toward violence and women and the importance of developing rapport and trust with

respondents and ensuring a safe, nonjudgmental atmosphere during the interviews. The World Health Organization's guidelines on ethics and safety issues in studies of violence against women were adapted for use with male respondents.^{28,29}

Sociodemographic information collected included respondents' age, ethnicity, education level, occupation, and type of housing. Each respondent was asked to identify the person who had raised him, how often he had seen his biological father, the type and frequency of physical punishment he had experienced as a child, and whether he had witnessed his mother being abused. We solicited information on witnessing abuse by asking respondents whether, as a child, they had ever seen or heard their mother being beaten by their father or by their mother's partner. This question has been used widely in studies of violence, including the World Health Organization Multi-Country Study on Women's Health and Domestic Violence Against Women.30

The term *beaten* was translated into isiXhosa and Afrikaans as *ukubetha* and *slaan*, respectively; these terms also describe slapping and punching. "Beaten" in Cape Town's colloquial English is similarly inclusive of these actions. It is possible, however, that some of the violent actions witnessed by respondents (e.g., objects being thrown at their mother) were not captured by the question asked in this study.

We also assessed whether respondents had engaged in physical violence against an intimate partner during the past 10 years and whether they had engaged in such violence against their partner within the preceding year. Respondents were asked to identify all female partners with whom they had had meaningful relationships within the previous 10 years and to describe how they had managed conflicts. A respondent was identified as having used physical violence if he reporting having "hit," "grabbed," "pushed," "smacked," or "thrown an object at" a partner within the past 10 years. We assessed current episodes of physical violence against relationship partners by asking respondents whether they had "hit a partner within the last year."

We examined episodes of sexual abuse by asking respondents whether they had "tried

to force a partner to have sex" or "forced sex" on a partner. Data on emotional abuse were gathered by asking respondents whether they had threatened to leave the relationship, damaged valuables belonging to their partner, smashed or kicked an object, embarrassed their partner in front of her friends or family, evicted their partner from the house, threatened to hit their partner or to throw an object at her, or threatened their partner with a gun. Respondents were also asked whether they considered it acceptable to hit a woman.

In addition, respondents were queried about antisocial behavior such as gang membership, whether they had been arrested by the police (for violent behavior, theft, or possession of an illegal gun), whether they had served a prison sentence, and whether they ever used other forms of violence (e.g., involvement in physical fights at work or in the community). Respondents who reported "past" or "current" drug or alcohol use were asked whether they used drugs or alcohol "on most days," "mainly on weekends," "2–3 days per week," or "less often" and whether their substance use had ever created problems for them.

Data Analysis

Stata 7 was used to conduct the data analysis.³¹ Descriptive statistics were used to examine the frequency with which respondents had witnessed abuse of their mother as children. Unadjusted odds ratios (ORs) and 95% confidence intervals (CIs) were calculated for risk factor variables (Table 1). Race, education level, and occupation category were considered potential confounders, and therefore possible interactions of these variables with risk factors were examined with log-likelihood tests; no significant effects were found. Backward stepwise elimination was used to conduct the multiple regression analyses.

Four separate models were constructed to explore associations between childhood predictors and violent behaviors in adulthood. These models focused on (1) involvement in community violence, (2) involvement in violence at work, (3) intimate partner physical violence, and (4) arrest for illegal possession of a firearm. All of the models were adjusted for physical punishment experienced during childhood, race, age, occupation category (i.e.,

TABLE 1—Bivariate Associations and Unadjusted Odds Ratios for Having Witnessed Maternal Abuse During Childhood, by Selected Variables: Working Men (n = 1368) in Cape Town, South Africa, June 1998 to February 1999

	Witnessed Abuse (n = 322), No. (%)	Did Not Witness Abuse (n = 1046), No. (%)	OR (95% CI)	P
Age, y			·	.058
^6c, y ≤50	43 (13.4)	204 (19.5)	1.00	.000
40-49	76 (23.6)	258 (24.7)	1.39 (0.92, 2.12)	
30-39	130 (40.4)	373 (35.7)	1.65 (1.12, 2.43)	
20-29	73 (22.6)	211 (20.2)	1.64 (1.07, 2.51)	
Education	10 (22.0)	211 (20.2)	1.04 (1.01, 2.01)	.070
None	15 (4.66)	67 (6.4)	1.00	.010
Grades 1-7	103 (32.0)	295 (28.2)	1.55 (0.85, 2.85)	
Grades 8-10	103 (32.0)	375 (35.9)	1.53 (0.84, 2.78)	
Grades 11-12	75 (23.3)	309 (29.5)	1.08 (0.58, 2.00)	
Post-high school education	13 (23.3)	309 (29.3)	1.00 (0.30, 2.00)	.130
Yes	/Q (15.2)	100 (10 0)	1.00	.130
No	49 (15.2) 273 (84.8)	198 (18.9) 848 (81.1)	1.30 (0.92, 1.83)	
Occupational level	213 (04.0)	040 (01.1)	1.30 (0.32, 1.03)	.00
•	E (1 E)	E0 (E E)	1.00	.00:
Professional	5 (1.5)	58 (5.5)	1.00	
Skilled	73 (22.7)	276 (26.4)	3.06 (1.17, 7.99)	
Semiskilled	59 (18.3)	154 (14.7)	4.44 (1.66, 11.87)	
Unskilled	185 (57.5)	558 (53.4)	3.48 (1.51, 9.79)	000
Experienced frequent punishment during childhood	007 (70.0)	000 (00.5)	4.00	.000
No	237 (73.6)	936 (89.5)	1.00	
Yes	85 (26.4)	110 (10.5)	3.05 (2.20, 4.21)	
Raised in female-headed household				.940
No	72 (22.4)	236 (22.6)	1.00	
Yes	250 (77.6)	810 (77.4)	1.01 (0.74, 1.36)	
Presence of father during childhood				.23
Always	224 (69.9)	704 (67.3)	1.00	
Never	18 (5.6)	89 (8.5)	0.63 (0.37, 1.07)	
Other (saw father sometimes/father died early)	80 (24.8)	253 (24.2)	0.99 (0.74, 1.33)	
Alcohol use				.013
Never	63 (19.6)	256 (24.5)	1.00	
Current	180 (55.9)	605 (57.8)	1.20 (0.87, 1.66)	
Past	79 (24.5)	185 (17.7)	1.73 (1.18, 2.54)	
Alcohol use problematic				.000
Yes	223 (69.3)	855 (81.7)	1.00	
No	99 (30.7)	191 (18.3)	1.98 (1.49, 2.64)	
Drug use				.000
Never	234 (72.7)	895 (85.6)	1.00	
Current	61 (18.9)	106 (10.1)	2.20 (1.55, 3.12)	
Past	27 (8.4)	45 (4.3)	2.24 (1.39, 3.78)	
Involved in physical fights in the community				.000
No	196 (60.9)	813 (77.2)	1.00	
Yes	126 (39.1)	233 (22.3)	2.24 (1.71, 2.94)	

Continued

professional, skilled, semiskilled, unskilled), and interviewer effects. We considered "problematic" alcohol use to be an important confounder of the relationship of childhood predictors with adult use of violence, and therefore we calculated a second set of models that included adjustment for this variable. Finally, as a means of exploring the public health implications of witnessing of abuse, population-attributable fractions were calculated to estimate the proportional amount of each type of violence that could have been prevented if respondents had not witnessed their mothers being abused.³²

RESULTS

Respondents reported substantial levels of exposure to violence in childhood. Nearly a guarter of the men (23.5%; 95% CI= 21.2, 25.7) reported having witnessed their mother being abused by her partner during their childhood. Of these respondents, 72.3% (95% CI=78.1, 86.4) reported having seen such abuse more than once. The majority of the men reported that they had been physically punished as children (86.9%; 95% CI=85.1, 88.7), and 14.5%(95% CI = 12.3, 16.1) indicated that this punishment occurred frequently (daily or at least once a week). More than a fifth (22.5%; 95% CI=20.2, 24.7) were raised in female-headed households; 17.1% (95% CI = 15.1, 19.1) reported that they never saw their biological father during their childhood, whereas 6.4% of those who did see their father reported that he did not show an interest in them.

Crude (unadjusted) associations between witnessing abuse and various predictors are presented in Table 1. Younger men were more likely than older men (aged 50 years or older) to report having witnessed abuse. No associations were found with education level, but skilled, semiskilled, and unskilled men were more likely than men in the professional occupation category to report that they had witnessed abuse. Men who witnessed abuse were more likely to report having experienced frequent physical punishment as a child. In addition, they were more likely to report having used drugs in the past and having problems associated with alcohol use.

TABLE 1—Continued

Involved in physical fights at work				.0001
No	245 (76.1)	925 (88.4)	1.00	
Yes	77 (23.1)	121 (11.6)	2.40 (1.74, 3.31)	
Gang membership			.000	
No	286 (88.8)	991 (94.7)	1.00	
Yes	36 (11.2)	55 (5.3)	2.26 (1.45, 3.51)	
Ever arrested				.0001
No	149 (46.3)	607 (58.0)	1.00	
Yes	173 (53.7)	439 (41.9)	1.60 (1.24, 2.06)	
Reason for arrest ^a				
Theft	50 (15.5)	78 (7.5)	2.28 (1.55, 3.34)	.0001
Violence	118 (36.5)	236 (22.6)	1.98 (1.51, 2.60)	.0001
Illegal possession of gun	15 (4.7)	13 (1.3)	3.88 (1.81, 8.28)	.0001
Ever incarcerated				.0001
No	189 (58.7)	753 (72.0)	1.00	
Yes	133 (41.3)	293 (28.0)	1.80 (1.39, 2.34)	
Intimate partner violence ^b				
Physical	201 (62.4)	378 (36.1)	2.93 (2.25, 3.82)	.0001
Sexual	73 (22.7)	136 (13.0)	1.96 (1.42, 2.69)	.0001
Emotional	259 (80.4)	682 (65.2)	2.19 (1.61, 3.82)	.0001
Verbal	218 (67.6)	534 (51.1)	2.00 (1.54, 2.65)	.0001
Hit partner within past year	42 (13.0)	78 (7.5)	1.86 (1.24, 2.77)	.002
Considers violence toward women acceptable				.0001
No	188 (58.4)	769 (73.5)	1.00	
Yes	134 (41.6)	277 (26.5)	1.97 (1.52, 2.57)	

Note. OR = odds ratio; CI = confidence interval.

Significant positive associations were found between witnessing abuse and several forms of antisocial behavior in adulthood, including involvement in physical fights in the community and at work, gang membership, arrest, and incarceration. Positive associations were found between the witnessing of abuse during childhood and arrest as a result of theft, violent behavior, or illegal possession of a gun. Positive associations were also found between the witnessing of abuse and reports of perpetration in adulthood of all of the forms of intimate partner violence assessed. The strongest association was found between the witnessing of abuse during childhood and use of physical violence against a partner (OR=2.93; 95% CI=2.25, 3.82).

Results of the multiple logistic regression models for adult antisocial and violent behaviors are presented in Table 2. The first set of models was adjusted for sociodemographic

variables (age, race, and occupation category [i.e., professional, skilled, semiskilled, unskilled]), interviewer effects, and physical punishment experienced during childhood. Childhood experience of physical punishment was found to be strongly associated with the witnessing of abuse before adjustment, so we considered it important to control for this potential confounder.

In addition to the variables just described, the second set of models was adjusted for reports of problematic alcohol use. Results showed that, despite only minimal changes in the odds ratio, witnessing the abuse of one's mother as a child remained significantly associated with all of the 4 behaviors assessed. Finally, calculation of population-attributable fractions for each of the significant predictors showed that a considerable proportion of the violence committed by respondents in adulthood could have been avoided if they had

not witnessed the abuse of their mothers as children.

DISCUSSION

Nearly a quarter of the men interviewed in this study (23.5%) had witnessed their mother being abused. This prevalence is approximately the same as rates observed among young men taking part in a study conducted in the rural Eastern Cape Province of South Africa (23.85%)11 and among men participating in a study conducted in India (24.5%).³³ However, this prevalence is lower than rates of witnessing violence against one's mother during childhood observed among women in South Africa; in a study conducted in 3 of the country's provinces, these rates were shown to range between 31.5% and 35.6%.6 Possibly girls spend more time at home in childhood than boys and thus have a greater opportunity to observe events in the home.

Our results indicate that witnessing the abuse of one's mother as a child is associated with engaging in several types of violent behavior in adulthood, such as using violence against an intimate partner, engaging in violence at work and in the community, being arrested as a result of both violent actions and antisocial behavior, and being arrested for possession of an illegal firearm. Adjustment for problematic alcohol use resulted in only small changes in the sizes of the odds ratios for most of these violent behaviors. The consistent associations across violent behaviors highlight both the link between domestic violence and other forms of violence and the importance of preventing of intimate partner violence in efforts to reduce overall levels of crime and violence in society.

Our findings suggest that the violent behavior engaged in by male respondents in adulthood might have been prevented or diminished had they not witnessed the abuse of their mothers as children. These childhood experiences appeared to be strongly predictive of both physical violence against partners (27%) and possible violent crime (arrest as a result of illegal possession of a gun) (30%).

Our findings are particularly important for South Africa, which is currently grappling with high levels of violent crime and its associated consequences. It is estimated, for

^aThe reference category is not having reported being arrested.

^bThe reference category is not having reported engaging in partner violence.

TABLE 2—Results of Logistic Regression Analyses Predicting Use of Violence in Adulthood and Witnessing Abuse as a Child, Along With Population-Attributable Fractions for Adult Behaviors: Working Men in Cape Town, South Africa (n = 1368)

	Involvement in Fights in Community	Involvement in Fights at Workplace	Use of Physical Violence Against Intimate Partner	Arrest for Possession of Illegal Gun
Witnessed abuse as a child, OR (95% CI)	1.86 (1.40, 2.46)	1.97 (1.41, 2.76)	2.93 (2.20, 3.90)	3.28 (1.51, 7.11)
Witnessed abuse as a child, ^a OR (95% CI)	1.73 (1.30, 2.31)	1.82 (1.30, 2.56)	2.69 (2.00, 3.62)	2.50 (1.14, 5.49)
Population-attributable fraction, ^b %	14	16	27	30

Note. OR = odds ratio; CI = confidence interval. Values were adjusted for physical punishment during childhood, race, age, occupational level/category (i.e., professional, skilled, semiskilled, unskilled), and interviewer effects.

example, that violence committed in work settings costs the country \$5.7 billion (R40 billion) per year.³⁴ In addition, a need for reliable data has been identified in light of the ongoing public debate among policymakers, researchers, and activists about the trustworthiness of South Africa's data in terms of particular rape statistics, such as the South African government's statistics on the number of rapes that were reported to South African Police Services.35

Our study involved certain limitations. The sample was based on men working in 3 municipalities and is therefore not representative of the overall population of men residing in Cape Town. Also, the witnessing of abuse may have been underreported, given that (1) we did not explicitly reference certain violent actions (e.g., throwing objects), (2) respondents may have been too upset or ashamed to acknowledge having witnessed the abuse of their mothers, and (3) respondents may have repressed their memories of these events or may have failed to acknowledge their experience because they wished to appear more socially acceptable to the interviewers.

Interviewers reported that the maternal abuse question was the most sensitive for the men. Some began to cry while relating their experiences and noted that they had never before been asked about this aspect of their childhoods. However, given that respondents did not express a reluctance to talk about the

issue of maternal abuse and were willing to disclose their own use of violence, we do not believe that such emotionnal instances had a substantial effect on our results. The men may have been as willing as they were to discuss their use of violence because violence is a common practice and experience—one that, to some degree, has been normalized-among this group. It is important to note that other areas of violence, such as violence occurring more than 10 years before the study and violence committed against casual partners, were not addressed.

Our findings also suggest that interventions that effectively reduce societal levels of intimate partner violence may have an important impact on other forms of violence as well. Considerable additional research is required, however, to ascertain the pathways leading from childhood experiences to adult behaviors. Although we found that associations persisted after adjustment for other indicators of a harsh childhood environment, associations between use of violence in adulthood and a wide range of forms of childhood maltreatment must be explored further. Such research should also include assessments of the normative status of various forms of violence and the social and structural factors that sustain and even promote harsh childhood environments. It would be erroneous to examine only the psychological dimensions of a harsh childhood in determining transmission of violence from generation to generation. Clearly, environmental factors play a significant role, given that children exposed to violence learn that violence is normative and that conflicts are legitimately resolved through the use of violence.

There is also a clear need to develop appropriate interventions for children at risk. Our findings point to the need to help children who have been exposed to violence reframe their ideas regarding the acceptability of the use of violence in different settings and to provide them with alternative means for handling conflict, anger, and aggression. These vulnerable children also need support to improve their social and emotional functioning. Interventions need to be directed at parents, or future parents, to build awareness of the links between childhood experiences and social functioning in adolescence and adulthood and the effects of parenting on child development. Such interventions could help establish positive parent-child relationships as the building blocks for learning positive behavior.

Finally, the results of our study show very strong links between forms of "public" violent behavior engaged in by men and experiences of "private" violence against their mothers witnessed in childhood. Our findings strongly suggest that not only is prevention of intimate partner violence important in and of itself, prevention will also contribute to reducing broader forms of violence and crime in society as a whole.

About the Authors

Naeemah Abrahams and Rachel Jewkes are with the Gender and Health Research Unit, South African Medical Research Council, Tygerberg

Requests for reprints should be sent to Naeemah Abrahams, PhD, RN, RM, MPH, Gender and Health Research Unit, Medical Research Council, PO Box 19070, Tygerberg 7505, South Africa (e-mail: naeema.abrahams@

This article was accepted January 18, 2005.

Contributors

N. Abrahams and R. Jewkes originated the study. N. Abrahams was responsible for implementation of the study and led the analysis and writing. R. Jewkes assisted with the analyses and with interpretation of findings and reviewed drafts of the article.

Acknowledgments

This research received funding support from the South African Department of Arts, Culture, Science and Technology.

^aAlso adjusted for problem alcohol use.

^bRounded percentage.

We would like to thank Dr M. Hoffman, Dr R. Ehrlich, and Dr E. van der Merwe for their comments and the researchers from the National Female Homicide Study (South Africa) for providing additional rate calculations.

Human Participant Protection

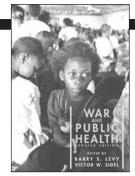
This study was approved by the Ethical Committee of the South African Medical Research Council. Informed consent was taken in accordance with the World Health Organization's ethical and safety guidelines for research on domestic violence against women.

Reference

- 1. International Crime Statistics 1996. Lyon, France: Interpol; 2001.
- Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, eds. World Report on Violence and Health. Geneva, Switzerland: World Health Organization; 2002.
- 3. Mathews S, Abrahams N, Martin LJ, Vetten L, van der Merwe L, Jewkes R. Every Six Hours a Woman Is Killed by Her Intimate Partner: A National Study of Female Homicide in South Africa. Cape Town, South Africa: Medical Research Council; 2004. Policy brief 5.
- 4. Brock K. When men murder women: an analysis of 2001 homicide data. Washington, DC: Violence Policy Center; 2003:1–33.
- Mouzos J. Femicide in Australia: findings from the National Homicide Monitoring Program. In: Russell DE, Harmes RA, eds. Femicide in Global Perspective. New York, NY: Teachers College Press; 2001:166–175.
- 6. Jewkes R, Penn-Kekana L, Levin J, Ratsaka M, Schrieber M. Prevalence of emotional, physical and sexual abuse of women in three South African provinces. *S Afr Med J.* 2001;91:421–428.
- Jewkes R, Vundule C, Maforah F, Jordaan E. Relationship dynamics and adolescent pregnancy in South Africa. Soc Sci Med. 2001;52:733–744.
- 8. Tjaden PG, Thoennes N. Prevalence, Incidence, and Consequences of Violence Against Women: Findings From the National Violence Against Women Survey. Washington, DC: National Institute of Justice; 1998.
- 9. Rodgers K. Wife Assault: The Findings of a National Survey. Ontario, Canada: Canadian Centre for Justice Statistics; 1994.
- Dunkle KL, Jewkes RK, Brown HC, Gray GE, McIntryre JA, Harlow SD. Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *Lancet.* 2004; 363:1415–1421.
- 11. Jewkes R, Nduna M, Dunkle K, et al. The impact of childhood trauma on HIV risk behaviors of young women in South Africa. Paper presented at: XVth International Conference on AIDS, July 2004, Bangkok, Thailand.
- 12. Heise LL, Ellsberg MC, Gottemoeller M. Ending violence against women. *Popul Rep.* 2002;27:1–43.
- 13. South African Demographic and Health Survey 1998. Pretoria, South Africa: Dept of Health, Republic of South Africa; 2002.
- 14. Abrahams N. Men's Use of Violence Against Women: A Study of Working Men in Cape Town, South

- Africa: Cape Town, South Africa: University of Cape Town: 2002.
- 15. Jewkes R, Abrahams N, Mvo Z. Why do nurses abuse patients? Reflections from South African obstetric services. *Soc Sci Med.* 1998;47:1781–1795.
- du Bios P. Human rights take a beating. Available at: http://www.corpun.com/zas00203.htm. Accessed June 15, 2005.
- 17. Wood KM. An Ethnography of Sexual Violence Among Township Youth in South Africa. London, England: University of London; 2003.
- Beasley R, Stolenberg CD. Personality characteristics of male spouse abusers. Clin Psychol Res Pract. 1992;23:310–317.
- Ceasar PL. Exposure to violence in the families of origin among wife abusers and maritally nonviolent men. Violence Vict. 1988;3:49–63.
- 20. Dutton DG, Starzomski A. Antecedents of abusive behaviour in wife assaulters. *J Fam Violence*. 1996;11: 113–132.
- 21. Ellsberg MC, Pena R, Herrera A, Liljestrand J, Winkvist A. Wife abuse among women of childbearing age in Nicaragua. *Am J Public Health*. 1999;89: 241–244
- 22. Hotaling GT, Sugarman DB. An analysis of risk markers in husband to wife violence: the current state of the knowledge. *Violence Vict.* 1986;1:101–123.
- Farrington DP. Predictors, causes, and correlates of male youth violence. In: Tonry M, Moore MH, eds. *Youth Violence*. Chicago, Ill: University of Chicago Press; 1998:421–475.
- McCord J. Some child-rearing antecedents of criminal behavior in adult men. J Pers Soc Psychol. 1979;
 37:1477–1486.
- 25. Widom CS. The cycle of violence. *Science*. 1989; 244:160–166
- 26. Eron L, Huesmann LR, Zelli A. The role of parental variables in the learning of aggression. In: Pepler DJ, Rubin KJ, eds. *The Development and Treatment of Childhood Aggression*. Hillsdale, NJ: Lawrence Erlbaum Associates; 1991:169–188.
- 27. McCord J. Family as a crucible for violence: comment on Gorman-Smith et al. *J Fam Psychol.* 1996;10: 147–152.
- 28. World Health Organization: Putting Women's Safety First: Ethical and Safety Recommendations for Research on Domestic Violence Against Women. Geneva, Switzerland, Global Programme on Evidence for Health Policy, 1999.
- Jewkes R, Watts C, Abrahams N, Penn-Kekana L, Garcia-Moreno C. Ethical and methodological issues in conducting research on gender-based violence in South Africa. Reprod Health Matters. 2000;8:93–103.
- 30. Garcia-Morena C, Watts C, Jansen H, Ellsberg M, Heise L. Responding to violence against women: WHO Multi-Country Study on Women's Health and Domestic Violence. *Health Hum Rights*. 2003;6:113–127.
- 31. *Stata, Version 7.0* [computer program]. College Station, Tex: Stata Corp; 1999.
- 32. Benichou J. Attributable risk. In: Mitchell HG, Benichou J, eds. *Encyclopedia of Epidemiological Methods*. New York, NY: John Wiley & Sons Inc; 2000: 50–63

- 33. Martin SL, Moracco KE, Garro J, et al. Domestic violence across generations: findings from northern India. *J Epidemiol.* 2002;31:560–572.
- 34. Gaenor V. Violence at work costing South Africa almost R40bn. *Sunday Times*. October 19, 2003:3.
- 35. Vetten L. Mbeki and Smith both got it wrong. Available at: http://www.csvr.org.za/articles/artvet15. htm. Accessed January 14, 2005.



War and Public Health

by Barry S. Levy and Victor W. Sidel

Updated edition with all-new epilogue

In this softcover edition, contributors demonstrate the devastating effects of war. They discuss nuclear weapons, biological and chemical weapons, conventional arms and services, the United Nations, and the enormous costs involved in depriving warring nations from focusing on the health and welfare of their citizens.

This book should be on the reading list of not only health professionals but of all those who are interested in international studies, diplomacy or the military.

> ISBN 0-87553-023-0 2000 ■ 417 pages ■ softcover \$17.00 APHA Members \$23.50 Nonmembers plus shipping and handling

ORDER TODAY!

American Public Health Association



Publication Sales Web: www.apha.org E-mail: APHA@pbd.com Tel: 888-320-APHA FAX: 888-361-APHA

WR01J7