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Violence against women in New Zealand: prevalence and health consequences

Janet Fanslow, Elizabeth Robinson

Abstract

Background This study reports on a large cross-sectional study of violence against women in New Zealand, and outlines the health consequences associated with intimate partner violence (IPV).

Methods The study population was women aged 18–64 years in Auckland and north Waikato. A population-based cluster-sampling scheme was used, with face-to-face interviews with one randomly selected woman from each household. Analyses included calculation of prevalence rates and logistic regression models to determine associations.

Results The overall response rate was 66.9%, n=2,855. Fifteen percent of participants in Auckland and 17% in the north Waikato reported at least one act of physical violence inflicted by non-partners in their lifetime. Sexual violence by non-partners was reported by 9% and 12% of women in Auckland and Waikato respectively. Among ever-partnered women, 33% in Auckland and 39% in Waikato had experienced at least one act of physical and/or sexual violence by an intimate partner. Victims of IPV were two times more likely to have visited a healthcare provider in the previous 4 weeks. IPV was significantly associated with current health effects, including: self-perceived poor health, physical health problems (eg, pain), and mental health problems (eg, suicide attempts).

Conclusion The high prevalence of violence and its pervasive association with a wide range of physical and mental health effects suggest that it warrants consideration as a significant factor underpinning ill-health in women. Prevention efforts must concentrate not only on reducing the perpetration of violence against women, in particular IPV, but also on developing and sustaining appropriate responses to victims of violence within the health system.

Internationally, violence has become recognised as a significant contributor to ill-health.[1] In New Zealand (NZ), this recognition has been accompanied by significant policy attention. Reducing violence in interpersonal relationships is a priority objective of the NZ Health strategy;[2] and the Ministry of Social Development is working on implementing *Te Rito,* a family violence prevention strategy.[3]

While these documents are framed to recognise the multiple types of violence, both documents recognise that a significant proportion of violence is directed at women, and that much of this violence occurs in the context of intimate relationships.

Furthermore, these policy initiatives have been driven by health consumers' recognition of the importance of addressing physical and sexual violence as a high priority for health gain,[4] by international research documenting the health consequences of violence,[5] lobbying from non-governmental organisations (NGOs),

and by NZ studies suggesting that intimate partner violence is likely to be highly prevalent within NZ.[6]

The present study reports on the conduct of a large-scale, population-based study of NZ women, using an internationally standardised questionnaire. It documents lifetime prevalence of violence against women, and outlines some of the health consequences associated with violence by intimate partners.

Methods

Questionnaire development/translation—The base questionnaire was developed by the Core Technical Team of the WHO Multi-Country Study on Violence Against Women, following extensive review of the literature and consultation with experts.[7] The 13-domain questionnaire was reviewed by experts within NZ (researchers, governmental representatives, Maori advisers, and advocates), who suggested minor modifications to increase its appropriateness for the NZ context. The revised questionnaire, with 302 possible items, was pilot tested to determine its understandability and acceptability by NZ respondents. As Mandarin/Cantonese speakers were the largest group who could not complete the questionnaire in English, the questionnaire was translated into Simple Chinese.

'Intimate partners' included male current or ex-partners that the women were married to or had lived with, or current regular male sexual partners. Physical violence was defined as having been slapped or had something thrown at them which could hurt them—or having been pushed, shoved, or had their hair pulled (grouped as 'moderate violence' for later analyses); and those who had been hit with a fist or something else, had been kicked, dragged, or beaten up, had been choked or burnt on purpose, or been threatened with (and/or had used against them) a gun, knife, or other weapon (termed 'severe violence' in later analyses).

Sexual violence was defined as having experienced one or more of the following acts: being physically forced to have sexual intercourse when the woman did not want to; having sexual intercourse because she was afraid of what her partner might do, or being forced to do something sexual that she found degrading or humiliating. The SRQ is a validated instrument used to screen for emotional distress.[8] At the conclusion of the interview, all respondents were asked 'I have asked you many difficult things. How has talking about these things made you feel?'

Study population—The study population was women aged 18–64 years, who were usually resident in Auckland or one rural region (north Waikato), and who resided in private homes.

Study location—The Auckland urban area was defined by the Territorial Authority Units (TLAs): Auckland City, Manukau City, Waitakere City, North Shore City. The Waikato area consisted of the four TLAs: Hauraki, Matamata-Piako, Waikato, and Waipa Districts.

Sampling strategy—A population-based cluster-sampling scheme with a fixed number of dwellings per cluster was used. The target sample size was 1480 in each region (2,960 total), based on a prevalence estimate of 15%, an 80% response rate, and design effect of 1.5. Meshblocks were the primary sampling units (PSUs), and were used to provide starting points for the selection of households. The probability that a PSU was included was proportional to the number of dwellings in that PSU. The starting point consisted of a randomly selected street and street number within each PSU, provided by Statistics NZ. Interviewers approached (using a predetermined procedure) 10 households in each PSU, beginning from the designated starting point

In Auckland, interviewers approached every 4th house, in the Waikato interviewers approached every 2nd house. Non-residential and short-term residential properties were excluded from the count. In households with more than one eligible respondent, one woman was randomly selected, for safety and confidentiality reasons. If the woman selected was available to talk, consent was sought and an interview arranged, otherwise contact details were obtained and further attempts made to set up an interview.

The households visited and the outcomes of all visits were recorded. To maximise the chance of obtaining an interview, a minimum of three return visits were made to each household at different times on different days. In practice, some interviewers made up to nine repeat visits.

Data management—All questionnaires were checked for completeness, and participants were re-contacted to obtain missing data. All data were double-entered in the Epi-Info software application, checked, and corrected if necessary.

Analyses—The sampling scheme was taken into account in all analyses (by using survey procedures in SAS v9 software). Prevalences are presented with 95% confidence intervals, and are presented separately for the two study locations—because sampling was representative of those regions, rather than representative of New Zealand as a whole.

Logistic regression models (including age, NZDep2001, ethnicity, educational status, household income, and location) were used to investigate the association between lifetime physical violence and health outcomes. Interactions between the location and violence were investigated to see whether the effect of violence on the outcome differed for the two locations. (Except for hospitalisation, this was not found to be so, and the data were analysed with the main effect of location included in the model.)

For analyses related to association between intimate partner violence and health, ever-partnered respondents were grouped into three levels:

- Those women who had experienced 'no' physical violence,
- Those women who had experienced 'moderate' physical violence, and
- Those women who had experienced 'severe' physical violence.

Safety and ethical considerations—The safety of respondents and interviewers, and the confidentiality of information, were important considerations in the collection of these data. All interviews were conducted in private (no children over the age of 2 years were present), and all participants, regardless of whether they disclosed abuse or not, were provided with a list of support agencies. In addition, ethical and safety recommendations for research on intimate partner violence (developed by the World Health Organization [WHO], and approved by The Scientific and Ethical Review Group of the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction) were strictly followed as part of the conduct of the present study.[9] Ethics approval was granted by the Human Subjects Ethics Committee of the University of Auckland (Ref number: 2002/199).

Results

In total, 6,174 addresses were selected. Of these addresses, 57 did not have a dwelling (ineligible pre contact). 784 (12.8%) of households refused to participate—or indefinitely postponed, did not speak English or Mandarin/Cantonese, or were unable to be contacted. Of the remaining 5,333 houses, 1563 did not have eligible women (ineligible post contact).

From the 3,770 households with eligible women, 2,855 women aged 18–64 years were interviewed. In Auckland, 1,411 interviews (98%) were conducted in English, and 29 (2%) were conducted in Mandarin or Cantonese. All interviews in north Waikato were conducted in English. An 88.3% household response rate, and 75.8% eligible woman response rate was obtained, resulting in an overall response rate of 66.9%.

Table 1 presents demographic characteristics of New Zealand, its regions, and the sampled area. It indicates that the distribution of ages in our sample differed slightly from the population. This distribution is an artefact of the sampling strategy, in which only one woman per household was selected. Sample percentages for the older age groups, ethnicity, and marital status were comparable with the regional distributions.

At least one act of physical violence inflicted by non-partners in their lifetime was reported by 15% of participants in the Auckland area and 17% in north Waikato, while sexual violence by non-partners was reported by 9% and 12% of women in Auckland and north Waikato respectively (Table 2).

Table 1. Demographic characteristics of females in New Zealand, its regions, and the sampled area

Variable	NZ females aged 20–64 years[10]	TLA populations; females aged 20–64 years[11]	Survey sample; females aged 20–64 years
Age (years)	**%**	**%**	**%**
20–24	10.8	AKL: 12.1	AKL: 9.4
		WAI: 8.2	WAI: 5.1
25–34	24.7	AKL: 27.1	AKL: 25.7
		WAI: 23.2	WAI: 18.9
35–44	27.0	AKL: 26.8	AKL: 31.9
		WAI: 28.8	WAI: 31.7
45–54	22.2	AKL: 20.8	AKL: 19.9
		WAI: 23.3	WAI: 27.0
55–64	15.2	AKL: 13.2	AKL: 13.1
		WAI: 16.6	WAI: 17.3
Ethnicity			
Maori	14.6	AKL: 9.1	AKL: 11.0
		WAI: 15.6	WAI: 15.7
Pacific Island	6.4	AKL: 12.4	AKL: 12.9
		WAI: 1.1	WAI: 0.3
Asian	6.8	AKL: 16.2	AKL: 11.1
		WAI: 1.8	WAI: 0.7
European & Other	80.1	AKL: 62.4	AKL: 65.0
		WAI: 81.6	WAI: 83.3
Marital Status[12]			
Legal spouse	53.0	NA	60.2
Partnered	14.4	NA	15.2
Separated/Divorced	9.8	NA	12.5
Widowed	2.3	NA	2.1

NA=not available; NZ=New Zealand; AKL=Auckland; WAI=Waikato.

Table 2. Physical and sexual violence by non-partners reported by all women*

Violence type	Auckland (n=1,436)	North Waikato (n=1,419)
	Lifetime % (95% CI)	Lifetime % (95% CI)
Beaten or physically mistreated	15.2 (13.1–17.3)	16.6 (14.4–18.7)
Sexual Assault	9.2 (7.6–10.9)	11.7 (10.0–13.5)

*Greater than or equal to 15 years old.

Of the 2,855 women who completed the full questionnaire, 2,744 were ever partnered and 111 had never had partners. Of the 2,744 women who were ever partnered, 67 did not have current partners but did have(in the past) a male partner they did not live with. Three cases had missing data related to the partner status. As a result, we report data from a total sample of 2,674 ever partnered women.

Thirty-three percent of participants in Auckland, and 39% in north Waikato, reported that they had experienced at least one act of physical and/or sexual violence by an intimate partner in their lifetime. Experience of physical and/or sexual violence by an intimate partner within the previous 12 months was reported by approximately 5% of

respondents (Table 3). Of those who had experienced moderate or severe physical violence, 42.4 % (n=362), had also experienced sexual violence.

Table 3. Prevalence of intimate partner violence reported by ever partnered women

Violence type	Auckland (n=1,309)		Waikato (n=1,360)*	
	Lifetime % (95% CI)	Past 12 months % (95% CI)	Lifetime % (95% CI)	Past 12 months % (95% CI)
Physical IPV				
-Any	30.2 (27.3–33.1)	5.3 (4.0–6.6)	34.4 (31.7–37.1)	(3.3–6.2)
-Moderate	11.3 (9.3–13.3)	2.6 (1.6–3.5)	11.1 (9.4–12.8)	1.4 (0.7–2.1)
-Severe	18.9 (16.3–21.4)	2.8 (1.7–3.8)	23.4 (20.9–25.9)	3.4 (2.0–4.7)
Sexual IPV	14.1 (11.9–16.3)	2.1 (1.2–3.0)	19.9 (17.7–22.2)	1.5 (0.7–2.4)
Physical and/or sexual	33.1 (30.1–36.2)	5.7 (4.3–7.0)	38.8 (35.9–41.6)	5.4 (3.8–6.9)

*5 women chose not to answer questions on IPV (intimate personal violence).

Compared with women who had not experienced physical violence by a partner, women with a lifetime experience of moderate or severe physical IPV were significantly more likely to have consulted a healthcare provider within the previous 4 weeks because they themselves were sick. Of these women, 75% had consulted a general practitioner, and 16% had consulted a pharmacist.

In Auckland, women who had experienced severe violence were more than twice as likely to have been hospitalised within the previous 12 months compared with women who had not experienced any physical violence (Table 4).

Compared with women who had not experienced physical violence by a partner, women who had experienced moderate physical violence were over 2.5 times more likely to report current symptoms of emotional distress and suicidal thoughts in their lifetime, while women who had experienced severe physical violence were almost 4 times more likely to report these effects.

Suicide attempts were also more common for those who had experienced physical IPV compared with those who had not (moderate violence: 3 times more likely; severe violence: almost 8 times more likely) (Table 5).

Lifetime experience of intimate partner violence was significantly associated with a range of current (within the past 4 weeks) effects on health, including: self-perceived poor health, problems with activities of daily living, and other physical health indicators. A ‘dose-response’ effect was noted, with women who reported experiencing more severe physical violence by an intimate partner having stronger risks of current ill-health than women who experienced moderate physical violence by an intimate partner. However, even the group who had reported experiencing ‘moderate’ physical violence were at significantly elevated risk of health problems, compared with women who had not experienced physical violence by an intimate partner (Table 6).

Table 4. Women who had contact with healthcare professionals, or were hospitalised

Variable	Level of physical violence*	N	%	OR (95%CI) from logistic regression†	P value from logistic regression
Consulted health professional in last 4 weeks	No physical violence	1814	29.8	1	<0.0001
	Moderate violence	299	36.2	1.34 (1.01–1.78)	
	Severe violence	554	44.5	1.86 (1.47–2.36)	
Auckland					
Been in hospital in last 12 months	No physical violence	916	6.1	1	0.001
	Moderate violence	148	6.1	1.02 (0.43–2.41)	
	Severe violence	244	17.5	2.28 (1.45–3.57)	
North Waikato					
Been in hospital in last 12 months	No physical violence	893	9.2	1	0.5
	Moderate violence	151	12.7	1.37 (0.76–2.47)	
	Severe violence	310	13.8	1.17 (0.74–1.84)	

* 'No physical violence' group contains a small proportion of women who had experienced sexual violence (n=101, 5.6%); †Logistic regression models included age, NZDep2001, ethnicity, educational status, household income. Model for "consulted health professionals in last 4 weeks" also included location.

Table 5. Mental health effects of violence on women

Variable	Level of physical violence*	N	%	OR (95%CI) from logistic regression†	P value from logistic regression
Suicidal thoughts ever	No physical Violence	1812	19.6	1	<0.0001
	Moderate violence	299	40.3	2.62 (1.97–3.48)	
	Severe violence	553	52.3	3.97 (3.10–5.10)	
Suicidal attempts ever	No physical Violence	1809	2.3	1	<0.0001
	Moderate violence	299	7.5	2.98 (1.69–5.27)	
	Severe violence	552	20.9	7.63 (4.79–12.15)	
SRQ score greater than 7 (symptoms in last 4 weeks)	No physical violence	1814	9.4	1	<0.0001
	Moderate violence	299	22.0	2.66 (1.87–3.78)	
	Severe violence	555	31.8	3.84 (2.89–5.11)	

SRQ=self-reporting questionnaire; * 'No physical violence' group contains a small proportion of women who had experienced sexual violence (n=101, 5.6%); †Logistic regression models included age, NZDep2001, ethnicity, educational status, household income, and location.

Table 6. Associations of lifetime physical violence and health outcomes reported by ever partnered women

Current health problem (past 4 weeks)	Level of physical violence*	N	%	OR (95%CI) from logistic regression†	P value from logistic regression
Self-reported poor or very poor health	No physical violence	1814	2.3	1	0.0002
	Moderate violence	299	4.6	2.34 (1.25–4.40)	
	Severe violence	555	8.6	2.73 (1.64–4.53)	
Some/many problems, or unable to perform usual activities	No physical violence	1813	13.2	1	<0.0001
	Moderate violence	299	16.5	1.34 (0.92–1.94)	
	Severe violence	554	26.0	1.94 (1.46–2.59)	
Many problems walking/unable to walk	No physical violence	1814	1.3	1	0.005
	Moderate physical violence	299	2.9	2.35 (0.98–5.67)	
	Severe physical violence	555	6.0	2.95 (1.54–5.66)	
Moderate/severe/ extreme pain or discomfort	No physical violence	1814	21.9	1	<0.0001
	Moderate violence	299	33.3	1.78 (1.34–2.35)	
	Severe violence	554	37.8	2.10 (1.64–2.69)	
Some/many or extreme memory or concentration problems	No physical violence	1813	11.0	1	<0.0001
	Moderate violence	299	18.0	1.82 (1.26–2.62)	
	Severe violence	555	26.8	2.58 (1.92–3.48)	
Dizziness	No physical violence	1813	11.1	1	<0.0001
	Moderate violence	299	19.1	1.80 (1.24–2.61)	
	Severe violence	554	26.7	2.55 (1.89–3.44)	
Vaginal discharge	No physical violence	1812	6.5	1	0.008
	Moderate violence	298	8.7	1.39 (0.81–2.38)	
	Severe violence	551	11.5	1.86 (1.25-2.77)	

* 'No physical violence' group contains a small proportion of women who had experienced sexual violence (n=101, 5.6%); †Logistic regression models included age, NZDep2001, ethnicity, educational status, household income, and location.

Lifetime experience of intimate partner violence was also significantly associated with usage of medication (either prescription or over-the-counter) within the past 4 weeks. Women who experienced moderate physical violence or severe physical violence were both approximately twice as likely to use medication to relieve physical or mental symptoms (Table 7).

Table 7. Associations of lifetime physical violence and medication usage reported by ever partnered women

Current health problem (past 4 weeks)	Level of physical violence*	N	%	OR (95%CI) from logistic regression†	P value from logistic regression
Medication to calm down or for sleep	No physical violence	1813	6.6	1	
	Moderate violence	299	10.1	1.76 (1.13–2.74)	0.003
	Severe violence	555	11.5	1.71 (1.69–2.49)	
Medication to relieve pain	No physical violence	1813	20.6	1	
	Moderate violence	299	30.4	1.70 (1.27–2.26)	<0.0001
	Severe violence	554	33.1	1.99 (1.53–2.59)	
Medication to reduce sadness or depression	No physical violence	1814	4.0	1	
	Moderate violence	299	8.4	1.93 (1.21–3.09)	0.0001
	Severe violence	555	9.7	2.27 (1.48–3.46)	

* 'No physical violence' group contains a small proportion of women who had experienced sexual violence (n=101, 5.6%); †Logistic regression models included age, nzdep2001, ethnicity, educational status, household income and location.

The acceptability of doing a survey on this topic was demonstrated by the high proportion of women who reported feeling fine/good, or the same after completion of the questionnaire. This demonstrates that, with appropriate attention to staff training and safety and ethics considerations, studies on this topic can be done in a way that does not contribute to stress for the majority of women. The majority of those women who reported feeling bad/worse indicated that it was difficult to re-visit previous bad experiences (Table 8).

Table 8: How participants felt after completing the survey

Feelings	Auckland % (n)	Waikato % (n)	Total % (n)
Same/no difference	59.4 (837)	69.0 (960)	64.2 (1797)
Good/better	27.3 (384)	19.9 (277)	23.6 (661)
Mixed feelings	8.7 (123)	9.3 (130)	9.0 (253)
Bad/worse	4.5 (64)	1.7 (24)	3.1 (88)

Discussion

This study presents the results of a recent population-based study of violence against women, conducted according to an internationally developed standard of measurement and rigorous data collection. Overall, the results indicated that many women experience violence in a lifetime.

For those women aged 15 and over, at least one act of physical violence inflicted by non-partners was reported by approximately 1 in 6 participants, while sexual violence was reported by approximately 1 in 10 women. Approximately 1 in 3 ever-partnered women reported that they had experienced at least one act of physical and/or sexual violence by an intimate partner, and experience of physical and/or sexual violence by a current or previous intimate partner within the previous 12 months was reported by approximately 5% of respondents. Thus, these results indicate that the majority of violence against women was perpetrated by current or former male partners.

These results concur with rates of intimate partner violence reported by other studies, such as the New Zealand National Survey of Crime Victims (NZNSCV), which reported that 26.4% of women had been physically abused by an intimate partner in their lifetime, and 3.0% had experienced physical violence by a current partner within the previous year.[13] The slightly lower rates obtained by the NZNSCV may be due to inclusion of women aged over 65 years, who may be less likely to disclose IPV, and/or methodological differences (eg, use of a computer-based survey), and inclusion of questions about IPV in a 'crime' context.[14]

Our results are also consistent with other NZ cohort studies, such as the 1995 Hitting Home Survey, in which a nationally representative sample of men reported that 35% had been physically violent to an intimate partner in their lifetime.[6]

While causation cannot be determined from a cross-sectional survey, the temporal relationship (ie, lifetime exposure and current health), the strength of associations (odds ratios ranging from 1.3–7.6), and the dose-response relationship between experience of moderate versus severe violence all strongly support the notion of a causal link between IPV and ill-health in women.[15] Furthermore, the criteria of plausibility and consistency are supported by numerous other studies that have documented the health consequences of IPV.[16]

Collectively, the weight of this evidence supports the view that lifetime experience of IPV is a major contributor to women's ill-health, and may underpin a broad range of health outcomes. Furthermore, when combined with the information that approximately 40% of women with a lifetime experience of IPV had presented to a healthcare provider (usually a GP) within the previous 4 weeks, the findings have considerable implications for healthcare delivery.

Healthcare providers, and GPs in particular, need to be aware that substantial proportions of their female patients are likely to have experienced IPV in their lifetime, and that such violence can have broad-ranging health effects that are not restricted to injuries. While we have more to learn about the best way for healthcare providers to respond, GPs and other healthcare providers are likely to need skills in appropriately identifying current and past victims of IPV (eg, through routine inquiry). Because of the high co-occurrence of physical and sexual violence (42.4% of

those women who experienced physical violence had also experienced sexual violence), healthcare providers may need to assess for both of these types of violence.

Additionally, while women who are currently victims of IPV may require immediate referrals to specialist services for IPV or crisis support services, recognition of the underlying connection between historical IPV and current health is important, so that this can be discussed explicitly with the client, and appropriate treatment and referral options that adequately address the role of IPV can be agreed on.

The association between women's experience of IPV and increased use of medications may be understandable, given that women who experienced intimate partner violence were also more likely to experience pain, depression, and sleep problems. Thus, there may be circumstances in which medications assist in the appropriate clinical management of symptoms associated with these problems.

Women may also self-manage their health problems using over-the-counter (OTC) medications. However, there are documented instances where medications such as mild tranquilisers or pain medications are prescribed for victims of IPV, yet have the potential to make her more vulnerable to further assault.[17] Unless prescription is taking place in the context of physician knowledge about the client's experience of IPV, the principle of non-maleficence can be breached.

The reason for the regional differences in the association between IPV and hospitalisation is unclear. One possible interpretation is that the decade of advocacy and training work related to IPV that has been conducted within the hospital and DHB systems in Auckland have contributed to increased awareness of the health consequences of this type of violence, and have altered response, at least for the more severe cases.[18-20] An alternative explanation is that Waikato has an overall difference in service provision, reflected by generally higher admission rates for all women. Further investigation is needed to determine why these differential admission rates exist.

Limitations of the study include the use of a questionnaire designed for assessment of health effects in developing countries, which did not include all health indicators that might be relevant within a developed country. Future papers planned from this study include analyses related to: other health consequences associated with IPV (eg, injury, reproductive health consequences, alcohol and drug use), emotional violence by intimate partners, violence by other perpetrators inflicted on women as children and/or adults, and exploration of the possible independence or interaction between physical and sexual violence on health.

The prevalence rates from this study and the strong associations with multiple physical and mental health effects suggest that intimate partner violence may be as significant a factor as poverty in terms of contributing to ill-health. As such, it warrants a considerable and sustained investment in policy attention and other resources for prevention.

Ministry of Health initiatives (such as the Family Violence Prevention Project, and the Toolkit for the prevention of interpersonal violence) are important initial contributions to the field—but will require sustained funding over time, and broad coverage across healthcare settings, if they are to achieve their goal of ensuring that health care providers' adequately identify, assess, and respond to victims.

However, beyond facilitating better responses to victims, the high lifetime prevalence of all forms of violence against women indicates that we must direct serious effort to primary prevention of violence, and target the perpetrators of violence. If our goal is to alleviate the health consequences and other burdens of violence against women, we must work to eliminate the violence.

Author information: Janet L Fanslow, Social and Community Health, School of Population Health, University of Auckland, Auckland; Elizabeth M Robinson, Biostatistician, Biostatistics Unit, School of Population Health, University Of Auckland.

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This study replicates the WHO Multi-Country Study on Violence Against Women (WHO/EIP/GPE/99.3).

Correspondence: Janet Fanslow, Social and Community Health, School of Population Health, University of Auckland, Private Bag 92019, Auckland. Fax: (09) 303 5932; email: j.fanslow@auckland.ac.nz

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