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Change in prevalence rates of physical and sexual intimate partner violence against women: data from two cross-sectional studies in New Zealand, 2003 and 2019

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ABSTRACT

Objectives To explore changes in reported prevalence of physical and sexual intimate partner violence (IPV) between 2003 and 2019. The impact of sociodemographic differences between the two samples and between group differences were also examined. Changes in attitudes supportive of violence and in help-seeking behaviour following disclosure were also explored.

Design Two cross-sectional studies.

Setting and participants Cross-sectional studies on family violence conducted in New Zealand in 2003 and 2019. Ever-partnered female respondents aged 18–64 years old were included (2003 n=2674, 2019 n=944).

Main outcome measures Prevalence rates of lifetime and past 12-month physical and sexual IPV, attitudes towards gender roles and acceptability of a man hitting his wife, help sought and received following disclosure were compared between the study years.

Results Lifetime prevalence of physical IPV was unchanged between 2003 and 2019 (AOR=0.89; 95% CI 0.73 to 1.08). There was a significant decrease in the proportion of women who reported experiencing 12-month physical IPV (AOR=0.53; 95% CI 0.29 to 0.97). Small reductions in rates for lifetime sexual IPV were also observed (AOR=0.74; 95% CI 0.59 to 0.95). In 2019, fewer women agreed with one or more statements supportive of traditional gender roles (48.1% (95% CI 45.7% to 50.5%) in 2003; 38.4% (95% CI 33.8% to 43.2%) in 2019). A significant decrease was noted in the proportion of women who sought help from informal sources (from 71.3% (95% CI 68.1% to 74.2%) in 2003 to 64.6% (95% CI 58.7% to 70.1%) in 2019). No significant changes in seeking help from formal sources, or perceived helpfulness from any source were noted.

Conclusion While the reductions in 12-month physical and lifetime sexual IPV are positive, prevention efforts need to be established, maintained and strengthened to address the substantial lifetime prevalence of IPV. Efforts to strengthen responses from formal and informal sources continue to be needed.

Strengths and limitations of this study

- The current investigation used large, representative samples of women from population-based surveys in 2003 and 2019.
- Regular and comparable surveys of violence exposure, agreement with attitudes supportive of violence and help-seeking behaviours provide an understanding of the effectiveness of population-based policies and programmes.
- True prevalence estimates may be higher as it is expected that women in severely abusive relationships would be unable or unwilling to participate in both surveys.
- Observed changes may reflect societal changes or environmental factors not considered in this investigation.
- Regular and comparable surveys of violence exposure are required to determine if the observed changes are sustained and represent a trend.

INTRODUCTION

Intimate partner violence (IPV) has been reported by the UN Secretary-General (2006) as 'the most common form of violence experienced by women globally'.[1] IPV includes physical and sexual violence, as well as psychological abuse, controlling behaviour and economic abuse.

Efforts to respond to IPV in high-income countries include the introduction of legislation or national action plans, and strengthening the non-for-profit sector to respond to the violence experienced.[2] However, the effectiveness of these strategies is not clear, as there is a lack of consistent and reliable data available to monitor changes in the prevalence of IPV over time.

The limited research available tends to rely on analysis of IPV homicide data, or other forms of administrative data from agencies such as health providers, police or courts.[2] While providing useful insights, these data do

not reflect the magnitude of the problem at the population level, as many who experience IPV frequently do not present to services, or the underlying cause of their presentation may not be identified or recorded.[2 3]

Other attempts to measure changes in IPV occurrence over time have relied on data from general crime victimisation surveys,[4] but the overall framing of these questionnaires (ie, surveys about 'crime') tends to lower the reporting of the violent behaviours within intimate relationships.[2 3] Surveys conducted for other purposes (eg, health surveys) which include a dedicated module on family violence provide some information, but can also be problematic, as space limitations for specific modules means that they might not be able to include questions that canvas the full range of violent experiences.[5]

The emerging consensus is that 'population-based stand-alone surveys are the instruments of choice' for collecting statistics on violence against women.[6] To date, specific violence against women surveys have been carried out in several high-income countries (eg, USA,[7] Canada,[8] Australia,[9] European Union,[10] Finland,[11 12] Spain,[13] New Zealand[14]). However, with the exception of Australia and Finland, the surveys have generally been one-off efforts and thus do not allow for time-related comparisons. Without regular, comparable surveys, it is not possible to determine if there are overall changes in the occurrence of IPV, or if there are differential patterns of change for specific subgroups within the population.

According to the WHO, violence results from the complex interplay between individual, relationship, social, cultural and environmental factors.[15] The ecological model has been important in helping determine risk and protective factors associated with violence occurrence, but also holds promise for prevention, as it carries the assumption that changes in contributing factors can potentially lead to changes in prevalence.[16] To date, the limited research that has explored differences in the prevalence of IPV over time has suggested that population-level changes in demographic factors, such as shifts in age, education, relationship status, and socioeconomic factors may contribute to the observed prevalence changes.[4 6 17 18] However, changes in environmental and social norms that may condone or help perpetuate violence, and associated effects on violence occurrence have received scant attention in the research.

Community-level norms, such as acceptance of 'traditional' gender roles and beliefs in the justification of 'circumstances in which it is acceptable for a man to hit his wife' are associated with perpetration of IPV.[19] In some countries, women's acceptance of these attitudes has been found to be associated with increased risk of IPV victimisation.[20] For these reasons, attitudes have been a key target of community education campaigns aimed at preventing violence against women.[21] However, to date, there has been little examination of the effectiveness of these initiatives at changing attitudes, or on any associated changes in violence rates.[21–23]

New Zealand is one of few high-income countries where more than one comprehensive population-based survey of violence against women has been conducted: the first survey was conducted in 2003, and the second survey in 2019. Between the two surveys, a series of actions were taken to address family violence including; legislation (eg, amendments to family violence law and protection for victims act), and prevention campaigns (eg, the Family Violence: It's not ok national campaign, and the Accident Compsensation Corporation (ACC)-funded Mates and Dates high schools programme on healthy relationships). Many of these initiatives have focused on addressing physical and sexual violence and have included strong messaging about the importance of help-seeking by those experiencing violence. Comparable surveys on attitudes supporting violence over time may provide evidence about the impact of such campaigns at the population level.

In the current study, using data from two New Zealand cross-sectional population-based surveys we aimed to: (1) describe changes in the reported prevalence rates of physical and sexual IPV between 2003 and 2019, (2) examine whether changes in women's sociodemographic characteristics were associated with changes in IPV prevalence rates, and (3) determine whether changes in the reported prevalence rates were consistent across population subgroups. We also sought to determine if there were (4) changes in attitudes supportive of violence and (5) changes in help-seeking by those who reported experiencing IPV.

METHOD

Procedure and participants

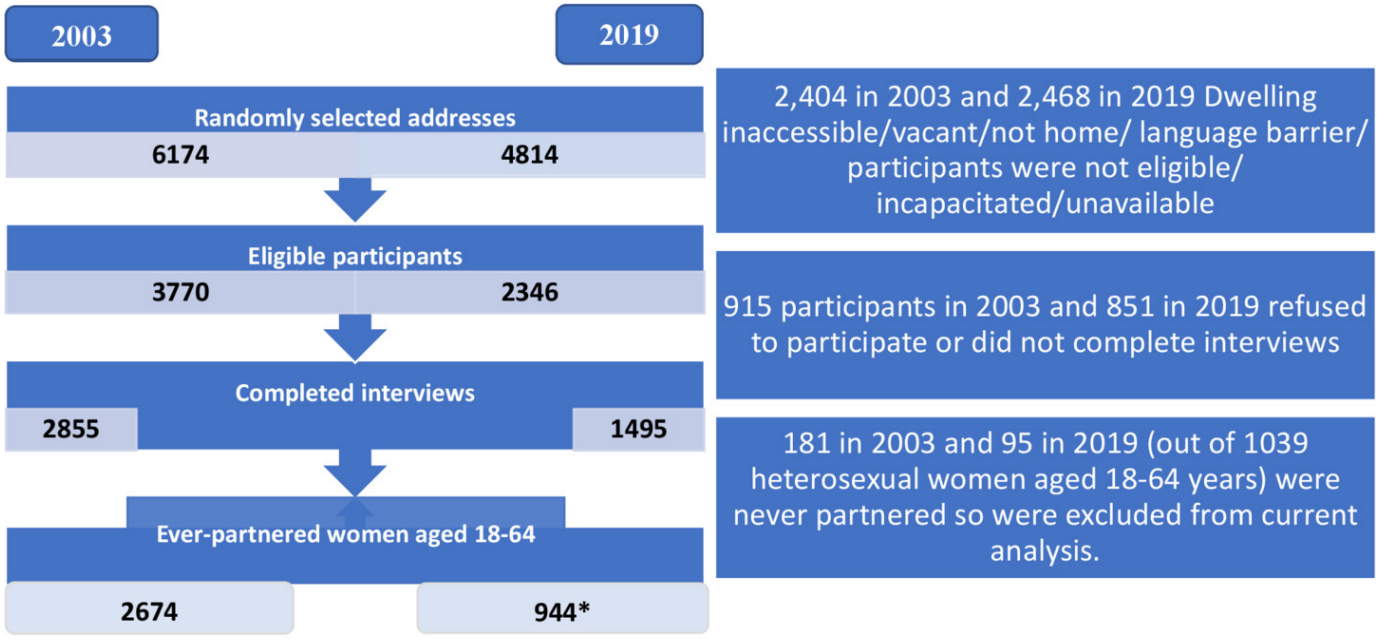
Data were drawn from two cross-sectional studies on family violence conducted in New Zealand in 2003 and 2019. A comprehensive description of the methods used in the 2003 and 2019 surveys has been previously presented.[14 24] A brief description of the two surveys is presented here.

The 2003 study was conducted in Auckland and Waikato regions. For the 2019 study, Northland was also included in the sampling.

Sampling strategies were similar in both surveys. A population-based cluster sampling scheme with a fixed number of dwellings per cluster was used for both studies. Primary sampling units (PSUs) were based on meshblock boundaries which contain between 50 and 100 dwellings. The starting point consisted of a randomly selected street and street number within each PSU. Interviewers made up to seven visits to each selected household to identify and recruit study participants. Non-residential, aged-care and short-term residential properties were excluded from both surveys. Interviewer training and support procedures were comparable across survey waves.

Eligibility

To be eligible to participate in the survey, household members needed to be able to speak conversational



***For the purpose of this paper, we only included women aged 18-64 years from the 2019 survey.**

Figure 1 Flow diagram of female participants in the 2003 and 2019 population-based studies on family violence in New Zealand.

English, have lived in the household for at least 1 month and slept in the house for four or more nights a week.

Of the households invited, 88.3% in 2003 and 78% in 2019 agreed to participate. Of the eligible women, 75.8% in 2003 and 63.7% in 2019 participated, yielding an overall response rate of 66.9% in 2003 and 63.7% in 2019. Figure 1 demonstrates the number of people invited and those who were interviewed and included in the analyses for each survey year.

Participants of the 2003 study were 2855 women aged 18–64 years. In 2019, the eligible population was expanded to include women and men aged 16 years and older resulting in 2888 completed interviews (n=1464 women, n=1423 men, n=1 other). For the purpose of this paper, only ever-partnered women aged 18–64 years from each sample were included, equivalent to almost 94% of all women aged 18–64 years surveyed in both waves (2003, n=2674; 2019, n=944).

Representativeness

In both surveys, the ethnicity, marital status, and area-level deprivation distribution of the samples were closely comparable to the general population; however, both samples were under-represented for younger women (ages 20–29 in 2003, 16–29 in 2019).[14 24] Demographic characteristics of ever-partnered women aged 18–64 years in the 2003 and 2019 surveys are presented in table 1.

Safety and ethics considerations

Ethics and safety recommendations for research on violence against women were followed throughout the research.[25] One individual was randomly selected from each household for the interview. In households with more than one eligible resident, the participant was randomly selected. Interviews were conducted in privacy with no one over the age of 2 years present. At the completion of the interview, interviewers provided all respondents with a list of approved support agencies regardless of disclosure status. Written informed consent was obtained from all participants.

Patient and public involvement

No patients or members of the public were involved in the design, conduct or reporting or dissemination plans of our research.

Study instrument and measures

To collect data, the WHO Multi-Country Study on Women's Health and Domestic Violence Against Women[26] was used in both surveys.

'Intimate partners' included male current or ex-partners that the women were married to or had lived with, or current regular male sexual partners. Definitions are presented in online supplemental table 1 for: physical and sexual IPV; sociodemographic characteristics; attitudes towards gender roles, acceptance of attitudes justifying

Table 1 Demographic characteristics of ever-partnered women aged 18–64 years in 2003 and 2019 surveys

	2003	2019	P value
Total sample	**n=2674**	**n=944**	
Age categories	n (%)*	n (%)*	0.001
18–24	182 (8.6)	45 (6.7)	
25–34	581 (21.9)	169 (17.4)	
35–44	857 (30.2)	218 (21.5)	
45–54	637 (24.6)	268 (30.8)	
55–64	414 (14.7)	244 (23.3)	
Relationship status			0.4
Married	1685 (61.4)	601 (63.3)	
Cohabiting	574 (22.1)	201 (21.2)	
Divorced/separated/ broken up	353 (14.3)	117 (12.6)	
Widowed	60 (2.1)	25 (2.9)	
Education attainment			0.001
Primary/secondary	1478 (55.2)	315 (34.8)	
Higher	1187 (44.8)	625 (65.1)	
Independent income			0.0007
Yes	2122 (79.5)	696 (72.5)	
No	551 (20.4)	248 (27.0)	
Area-level deprivation			0.1
Least deprived	914 (33.6)	270 (26.8)	
Moderately deprived	1045 (38.8)	393 (39.8)	
Most deprived	708 (27.5)	281 (33.4)	

Data are n (Col%).
*Weighted % are presented.

a man hitting his wife, and sources of help sought (who was told about the IPV) and help received (sources who provided help). All questions used for analyses were identical in the two surveys.

Analytic procedure

To explore whether there were any underlying differences in demographic characteristics of the respondents at the two time periods, the 2003 and 2019 samples were compared in terms of age, relationship status, education attainment, access to an independent source of income, and area-level deprivation using χ^2 tests.

Then, the prevalence rates of physical and sexual IPV were compared between two samples with results presented as percentages with 95% CIs. As the results for 'moderate' and 'severe' physical IPV showed similar patterns to any physical IPV, in the following analyses, only the results for *any* physical IPV are presented. Any act of sexual IPV was considered as severe. To identify evidence of differences in the estimated prevalence over time, ORs and 95% CIs for reported experience of physical and sexual IPV were calculated using univariate logistic regression models, with the study year as the predictor. The same procedure was followed for assessing differences in women's attitudes towards gender roles, attitudes towards acceptability of a man hitting his wife, help sought, and help received between the study years. For help-seeking variables, the analyses were restricted to women who reported lifetime experience of physical or sexual IPV only.

Then, to determine if the noted differences in the prevalence rates of IPV between the two study years found in the univariate analyses remained significant after controlling for sociodemographic characteristics, the following steps were taken:

- First, the association between each sociodemographic characteristic and each type of IPV (lifetime or 12 month physical and sexual IPV) was explored using univariate logistic regression models with results presented as unadjusted ORs with 95% CIs.
- Second, multivariate analyses were conducted, with the study year and sociodemographic characteristics included, and results were presented as adjusted ORs (AOR) with 95% CIs.

Finally, to determine whether the noted changes in the reported prevalence rates were consistent across population subgroups, multivariate logistic regression models with interaction terms (between each sociodemographic characteristic and the study year) were tested. Potential confounders (eg, age, education, relationship status, independent income, and area-level deprivation) and the study year were included in these analyses.

All analyses were performed on a pooled dataset of the two samples. Missing data including: do not know, do not remember, and no responses were excluded from all analyses. Less than 4% of any variable had missing data in both surveys. All analyses were conducted using Stata/SE V.15.1[27] survey commands to allow for stratification by sample location (region), clustering by PSUs, and weighting of data to account for the number of eligible participants in each household.

RESULTS

Differences between two study samples in terms of sociodemographic characteristics are presented in table 1. In general, there were more women over 45 years in 2019 (51.4%) compared with 2003 (39.3%). Additionally, a higher proportion of the sample had attained tertiary education in 2019 (65.1%) compared with 44.8% in 2003. A smaller proportion of women in 2019 reporting having an independent source of income (72.5%) compared with 79.5% in 2003.

Physical IPV

Changes in physical IPV prevalence rates

Lifetime physical IPV prevalence: the lifetime prevalence of physical IPV remained relatively unchanged between

2003 and 2019, with almost 30% of ever-partnered women aged 18–64 reporting having experienced at least one episode of physical violence (table 2). After controlling for sociodemographic factors, adjusted AORs showed no significant difference in the reported prevalence rates of lifetime physical IPV between the two study years (AOR=0.89; 95% CI 0.73 to 1.08).

12-month physical IPV prevalence: the 12-month prevalence of physical IPV decreased from 5% in 2003 to 2·4% in 2019 (OR=0.46; 95% CI 0.27 to 0.79). The AOR showed that, after controlling for sociodemographic factors, the decrease in 12-month physical IPV was attenuated but still remained significant (AOR=0.53; 95% CI 0.29 to 0.97).

Characteristics of women reporting lifetime and past-12 month physical IPV

Lifetime physical IPV: All sociodemographic factors were significantly associated with reporting lifetime physical IPV in the multivariate model, with the exception of 'access to independent income' and 'educational attainment'. Women aged 25 years and above were more likely to report having experienced at least one act of lifetime physical IPV. Compared with married women, a higher proportion of women who were cohabiting, divorced or widowed reported experiencing lifetime physical IPV. Similarly, those who were living in moderately or most deprived areas were more likely to report the experience of lifetime physical IPV compared with those living in the least deprived areas (table 2).

Past 12-month physical IPV: at the multivariate level, age and relationship status were significantly associated with reports of experiencing past 12-month physical IPV. A lower proportion of women aged 45 years and older reported experiencing past 12-month physical IPV compared with those younger than 45 years. A higher proportion of those who were cohabiting or divorced compared with those who were married reported this experience (table 2).

Sexual IPV

Changes in sexual IPV prevalence rates

Lifetime prevalence: a significant decrease in the reported lifetime prevalence of sexual IPV was found in the univariate analysis, from 16.9% in 2003 to 13.1% in 2019 (OR=0.74; 95% CI 0.59 to 0.92). After controlling for sociodemographic variables, the significant decrease in the reported experience of lifetime sexual IPV remained unchanged (AOR=0.74; 95% CI 0.59 to 0.95).

12-month prevalence: no significant differences in the 12-month prevalence rates of sexual IPV between the two study years was found in the univariate analysis (approximately 1% in both study years) (OR=0.50, 95% CI 0.23 to 1.10). After controlling for sociodemographic factors, the non-significant difference in 12-month sexual IPV between two study years remained unchanged (AOR=0.50; 95% CI to 0.19 to 1.35).

Characteristics of women reporting lifetime and past 12 month sexual IPV

Lifetime sexual IPV: at the multivariate level, age, relationship status, education attainment and area-deprivation level were significantly associated with lifetime sexual IPV. Women were more likely to report having experienced lifetime sexual IPV if they were: aged 25 and over; cohabiting, divorced or separated, or widowed; or living in the most deprived areas. Those who had some tertiary education were less likely to report lifetime experience of sexual IPV compared with those with primary or secondary education (table 3).

Past 12-month sexual IPV: those who were divorced/separated were more likely to report having experienced 12-month sexual IPV compared with married women. Those living in the most deprived areas were also more likely to report 12-month sexual IPV. Women aged 55 years and above were less likely to report having experienced sexual IPV in the past 12 months compared with younger women (table 3).

No significant interaction was found between study year and sociodemographic factors (data not shown).

Changes in women's attitudes

In 2003, 48.1% agreed with at least one of the statements indicating agreement with traditional gender roles, compared with 38.4% in 2019. While not common in 2003, it was even less common in 2019 for women to agree with the justifications for a man to hit his wife if he finds out she has been unfaithful (3.8% agreement in 2003, 1.8% agreement in 2019; table 4).

Changes in help-seeking behaviours

There was an overall reduction in the proportion of women who had sought help from formal or informal sources, with three-quarters (77%) of women who had experienced IPV reporting that they had told someone about the violence in 2003 compared with 70% in 2019. This reduction appears to be driven by the significant reduction in the proportion of women who sought help from informal sources (from 71.3% in 2003 to 64.6% in 2019). There was no change in the proportion of women who sought help from 'formal' sources between the two study years. Similarly, there was no significant change in the proportion of women who reported that they received help from formal sources (table 5).

DISCUSSION

Changes in prevalence of physical and sexual IPV between 2003 and 2019 were explored using two population-based surveys. Our findings indicated that the lifetime prevalence of physical IPV remained relatively unchanged between 2003 and 2019, with almost one-third (30%) of women in both surveys reporting having experienced at least one act of physical IPV in their lifetime. This is similar to reported prevalence rates from the EU 28-countries study (33%),[28] and the USA (30.6%),[29] and

Table 2 Characteristics of women reporting lifetime and past-12 month *Physical IPV* in the pooled database from two cross-sectional studies in New Zealand

	Lifetime				Past 12 month			
	2003 n % (95% CI)†	2019 n % (95% CI)†	Univariate model OR (95% CI)	*Multivariate model AOR (95% CI)	2003 n % (95% CI)†	2019 n % (95% CI)†	Univariate model OR (95% CI)	*Multivariate model AOR (95% CI)
Year (ref=2003)	856 32.2 (30.2 to 34.2)	291 29.1 (25.8 to 32.7)	0.86 (0.71 to 1.04)	0.89 (0.73 to 1.08)	118 5.0 (4.1 to 6.1)	19 2.4 (1.5 to 3.8)	0.46 (0.27 to 0.79)	0.53 (0.29 to 0.97)
Age categories								
18–24	53 28.1 (21.6 to 35.7)	14 24.4 (13.3 to 40.3)	1.00	1.00	18 9.4 (5.7 to 14.9)	4 9.7 (3.4 to 24.6)	1.00	1.00
25–34	210 37.7 (33.6 to 42.0)	36 20.6 (15.0 to 27.6)	1.36 (0.95 to 1.95)	2.11 (1.43 to 3.13)	49 10.0 (7.5 to 13.3)	4 2.4 (0.8 to 6.7)	0.87 (0.48 to 1.55)	1.09 (0.59 to 2.02)
35–44	278 32.9 (29.4 to 36.5)	71 32.9 (25.9 to 40.8)	1.31 (0.92 to 1.85)	2.58 (1.75 to 3.82)	35 4.7 (3.2 to 6.9)	2 0.7 (0.2 to 3.1)	0.39 (0.21 to 0.73)	0.60 (0.29 to 1.21)
45–54	201 30.9 (27.2 to 34.9)	83 28.0 (22.2 to 34.6)	1.14 (0.80 to 1.63)	2.38 (1.60 to 3.54)	10 1.7 (0.9 to 3.2)	3 1.7 (0.5 to 5.3)	0.16 (0.08 to 0.35)	0.28 (0.12 to 0.64)
55–64	113 27.3 (23.0 to 32.0)	87 34.9 (29.0 to 41.4)	1.15 (0.81 to 1.65)	2.37 (1.58 to 3.56)	6 1.3 (0.6 to 2.9)	6 2.6 (1.1 to 5.8)	0.17 (0.08 to 0.37)	0.30 (0.13 to 0.68)
Relationship status								
Married	358 21.2 (19.1 to 23.4)	125 19.8 (16.5 to 23.7)	1.00	1.00	39 2.5 (1.8 to 3.4)	6 1.1 (0.4 to 2.6)	1.00	1.00
Cohabiting	272 46.7 (42.3 to 51.2)	85 40.3 (33.0 to 48.0)	3.11 (2.58 to 3.76)	3.75 (3.04 to 4.64)	46 9.1 (6.6 to 12.3)	5 3.6 (1.4 to 8.9)	3.88 (2.48 to 6.06)	2.68 (1.58 to 4.54)
Divorced/separated/ broken up	207 57.8 (52.4 to 63.0)	69 53.4 (43.2 to 63.2)	4.98 (3.98 to 6.22)	4.84 (3.84 to 6.08)	33 10.6 (7.4 to 15.0)	7 6.7 (3.1 to 14.0)	5.01 (3.10 to 8.12)	4.27 (2.63 to 6.94)
Widowed	19 28.8 (18.9 to 41.2)	12 44.1 (25.6 to 64.4)	1.96 (1.22 to 3.14)	1.71 (1.05 to 2.78)	0	1 2.9 (0.4 to 18.4)	0.48 (0.06 to 3.57)	0.65 (0.08 to 5.00)
Education attainment								

Continued

Table 2 Continued

	Lifetime				Past 12 month			
	2003 n % (95% CI)†	2019 n % (95% CI)†	Univariate model OR (95% CI)	*Multivariate model AOR (95% CI)	2003 n % (95% CI)†	2019 n % (95% CI)†	Univariate model OR (95% CI)	*Multivariate model AOR (95% CI)
Primary and secondary	519 34.6 (32.0 to 37.4)	108 31.1 (24.9 to 38.1)	1.00	1.00	77 5.5 (4.3 to 6.8)	7 3.2 (1.4 to 7.1)	1.00	1.00
Tertiary level	332 28.9 (26.2 to 31.8)	182 28.1 (24.2 to 32.3)	0.78 (0.66 to 0.91)	0.87 (0.73 to 1.03)	40 4.3 (3.1 to 6.0)	12 2.0 (1.1 to 3.5)	0.68 (0.47 to 1.00)	0.82 (0.54 to 1.25)
Independent income								
No	135 26.0 (21.8 to 30.7)	75 28.2 (22.4 to 34.7)	1.00	1.00	26 6.3 (4.0 to 9.9)	5 1.9 (0.7 to 4.7)	1.00	1.00
Yes	720 33.8 (31.5 to 36.1)	216 29.5 (25.6 to 33.6)	1.33 (1.08 to 1.63)	1.10 (0.90 to 1.36)	92 4.7 (3.8 to 5.8)	14 2.6 (1.5 to 4.5)	0.85 (0.52 to 1.38)	0.71 (0.39 to 1.27)
Area-level deprivation								
Least deprived	224 25.9 (22.8 to 29.3)	68 22.7 (18.2 to 27.9)	1.00	1.00	26 3.3 (2.0 to 5.3)	4 1.3 (0.5 to 3.3)	1.00	1.00
Moderately deprived	344 32.1 (29.0 to 35.2)	113 28.5 (23.5 to 34.1)	1.34 (1.11 to 1.63)	1.21 (1.00 to 1.48)	44 4.7 (3.5 to 6.2)	8 3.2 (1.5 to 6.6)	1.54 (0.89 to 2.65)	1.34 (0.78 to 2.28)
Mostly deprived	285 40.1 (36.1 to 44.2)	110 34.9 (27.9 to 42.7)	1.86 (1.50 to 2.30)	1.54 (1.24 to 1.91)	48 7.8 (5.8 to 10.3)	7 2.3 (1.1 to 4.8)	2.23 (1.29 to 3.82)	1.50 (0.89 to 2.54)

*Weighted % and 95% CIs are presented.
†AORs (weighted adjusted ORs) are adjusted for age, education, relationship status, area-deprivation level, independent income, and the year of the study.
AORs, adjusted ORs; IPV, intimate partner violence.

Table 3 Characteristics of women with lifetime and past 12 month *Sexual IPV* in the pooled database from two cross-sectional studies in New Zealand

	Lifetime				Past 12 months			
	2003 n % (95% CI)*	2019 n % (95% CI)*	Univariate model OR (95% CI)	†Multivariate model AOR (95% CI)	2003 n % (95% CI)*	2019 n % (95% CI)*	Univariate model OR (95% CI)	†Multivariate model AOR (95% CI)
Year (ref=2003)	464 16.9 (15.4 to 18.6)	133 13.1 (11.0 to 15.4)	0.74 (0.59 to 0.92)	0.74 (0.59 to 0.95)	38 1.8 (1.3 to 2.6)	10 0.9 (0.5 to 1.9)	0.50 (0.23 to 1.10)	0.50 (0.19 to 1.35)
Age categories								
18–24	25 14.2 (9.6 to 20.5)	5 7.3 (2.3 to 20.6)	1.00	1.00	8 5.6 (2.7 to 11.1)	0	1.00	1.00
25–34	105 17.7 (14.7 to 21.2)	18 10.3 (6.5 to 15.8)	1.32 (0.83 to 2.10)	1.92 (1.18 to 3.14)	13 2.8 (1.5 to 5.2)	2 1.0 (0.2 to 3.8)	0.54 (0.21 to 1.41)	0.62 (0.23 to 1.70)
35–44	154 17.6 (15.0 to 20.5)	31 13.9 (9.6 to 19.8)	1.40 (0.89 to 2.20)	2.54 (1.56 to 4.12)	10 1.2 (0.4 to 3.0)	4 0.5 (0.1 to 2.2)	0.32 (0.12 to 0.85)	0.46 (0.17 to 1.24)
45–54	106 15.9 (13.0 to 19.3)	39 13.6 (9.9 to 18.3)	1.24 (0.78 to 1.97)	2.43 (1.46 to 4.03)	5 0.4 (0.1 to 1.7)	2 0.7 (0.2 to 2.9)	0.22 (0.07 to 0.66)	0.34 (0.11 to 1.09)
55–64	73 17.6 (14.0 to 21.9)	40 15.4 (11.3 to 20.7)	1.40 (0.89 to 2.21)	2.78 (1.67 to 4.62)	2 0.8 (0.4 to 1.6)	2 0.7 (0.2 to 1.9)	0.12 (0.04 to 0.42)	0.18 (0.05 to 0.63)
Relationship status								
Married	165 9.7 (8.3 to 11.3)	58 9.0 (6.9 to 11.7)	1.00	1.00	13 3.4 (2.0 to 5.7)	5 0.4 (0.05 to 2.8)	1.00	1.00
Cohabiting	155 25.6 (22.1 to 29.5)	38 18.1 (12.8 to 25.0)	2.94 (2.33 to 3.71)	3.52 (2.72 to 4.58)	15 4.1 (2.0 to 7.9)	1 2.7 (0.8 to 8.6)	3.30 (1.55 to 7.02)	2.01 (0.85 to 4.73)
Divorced/separated/broken up	131 34.3 (28.9 to 40.1)	34 25.7 (18.7 to 34.2)	4.50 (3.48 to 5.82)	4.42 (3.39 to 5.76)	10 4.1 (2.0 to 7.9)	3 2.7 (0.8 to 8.6)	4.82 (2.11 to 11.0)	3.89 (1.71 to 8.85)
Widowed	13 19.7 (11.7 to 31.2)	3 8.8 (2.8 to 24.8)	1.81 (1.02 to 3.20)	1.58 (0.88 to 2.82)	0	1 2.9 (0.4 to 18.5)	1.27 (0.16 to 9.90)	1.55 (0.20 to 12.19)
Education attainment								

Continued

Table 3 Continued

	Lifetime				Past 12 months			
	2003 n % (95% CI)*	2019 n % (95% CI)*	Univariate model OR (95% CI)	†Multivariate model AOR (95% CI)	2003 n % (95% CI)*	2019 n % (95% CI)*	Univariate model OR (95% CI)	†Multivariate model AOR (95% CI)
Primary and secondary	291 19.2 (17.2 to 21.5)	54 14.8 (11.0 to 19.6)	1.00	1.00	25 2.0 (1.3 to 3.2)	6 1.7 (0.7 to 4.0)	1.00	1.00
Tertiary level	172 14.1 (12.2 to 16.3)	78 12.1 (9.7 to 15.1)	0.69 (0.57 to 0.83)	0.77 (0.64 to 0.94)	13 1.6 (0.9 to 2.8)	3 0.4 (0.1 to 1.2)	0.58 (0.30 to 1.12)	0.77 (0.36 to 1.62)
Independent income								
Yes	388 17.7 (16.0 to 19.5)	98 13.2 (10.9 to 16.0)	1.25 (0.98 to 1.60)	1.05 (0.81 to 1.35)	28 1.7 (1.1 to 2.5)	7 0.9 (0.4 to 2.2)	0.79 (0.39 to 1.59)	0.76 (0.34 to 1.69)
No	76 14.1 (11.2 to 17.7)	35 12.6 (9.0 to 17.6)	1.00	1.00	10 2.4 (1.2 to 4.5)	3 0.9 (0.3 to 2.9)	1.00	1.00
Area-deprivation level								
Least deprived	123 13.2 (11.0 to 15.7)	32 11.8 (8.2 to 16.7)	1.00	1.00	4 0.6 (0.2 to 1.6)	2 0.9 (0.2 to 4.0)	1.00	1.00
Moderately deprived	181 16.9 (14.6 to 19.4)	48 12.0 (9.1 to 15.7)	1.24 (0.98 to 1.57)	1.12 (0.88 to 1.44)	16 2.1 (1.2 to 3.5)	2 0.4 (0.06 to 3.0)	2.46 (0.92 to 6.59)	2.16 (0.79 to 5.94)
Mostly deprived	160 21.8 (18.5 to 25.5)	53 15.3 (11.6 to 19.9)	1.66 (1.29 to 2.15)	1.36 (1.03 to 1.78)	18 3.1 (1.8 to 5.1)	6 1.5 (0.7 to 3.4)	3.95 (1.52 to 10.25)	2.78 (1.04 to 7.40)

*Weighted % and 95% CIs are presented.
†AORs (weighted adjusted ORs) are adjusted for age, education, relationship status, area-deprivation level, independent income, and the year of the study.
AOR, adjusted OR; IPV, intimate partner violence.

Table 4 Prevalence rates and changes in women's attitudes towards traditional gender roles in relationships and attitudes towards acceptability of a man hitting his wife

Attitude item	Freq % (95% CI)* 2003 (n=2674)	2019 (n=944)	Odds ratio (95% CI)*	P value
Roles of women and men in relationships				
A good wife obeys her husband even if she disagrees	371 13.6 (12.0 to 15.4)	108 14.7 (10.8 to 19.8)	1.10 (0.75 to 1.61)	0.6
Family problems should only be discussed with people in the family	1076 39.5 (37.2 to 41.9)	274 27.6 (24.0 to 31.4)	0.58 (0.47 to 0.72)	0.001
It is important for a man to show his partner who is boss	201 7.4 (6.2 to 8.7)	32 3.1 (2.1 to 4.7)	0.40 (0.25 to 0.64)	0.001
A woman should be able to choose her own friends even if her husband disapproves (disagree)	169 6.0 (5.1 to 7.2)	66 7.3 (5.5 to 9.6)	1.23 (0.87 to 1.74)	0.2
It's a wife obligation to have sex with her husband even if she doesn't feel like	216 8.1 (6.9 to 9.4)	56 5.8 (4.1 to 8.0)	0.70 (0.47 to 1.03)	0.07
Agreed with at least one statement	1337 48.1 (45.7 to 50.5)	365 38.4 (33.8 to 43.2)	0.67 (0.54 to 0.83)	0.001
Acceptability of a man hitting his wife				
She doesn't complete her household work to his satisfaction	9 0.3 (0.1 to 0.6)	5 0.4 (0.1 to 1.2)	1.47 (0.40 to 5.36)	0.5
She disobeys him	18 0.5 (0.3 to 0.9)	8 0.7 (0.3 to 1.5)	1.32 (0.52 to 3.34)	0.5
She refuses to have sex with him	9 0.2 (0.1 to 0.5)	5 0.5 (0.2 to 1.3)	1.99 (0.60 to 6.62)	0.2
She asks him whether he has other girlfriends	18 0.5 (0.3 to 1.0)	3 0.2 (0.04 to 0.7)	0.31 (0.07 to 1.39)	0.1
He suspects that she is unfaithful	36 1.3 (0.9 to 1.9)	8 0.7 (0.3 to 1.5)	0.52 (0.22 to 1.25)	0.1
He finds out she has been unfaithful	107 3.8 (3.0 to 4.8)	17 1.8 (1.0 to 3.3)	0.46 (0.24 to 0.90)	0.02
Agreed with at least one statement	107 3.5 (2.8 to 4.5)	22 2.3 (1.4 to 3.8)	0.64 (0.35 to 0.1.14)	0.1

*Weighted % and ORs with 95% CIs are presented.

is comparable to the global average.[30] While lifetime prevalence of physical IPV was unchanged, there was a significant decrease in the proportion of women who reported experiencing 12-month physical IPV. Small reductions in rates for lifetime sexual IPV were also observed. Population changes in sociodemographic characteristics did not fully explain the decreases in IPV prevalence over time, and the noted changes were consistent across sub-groups of the population.

In 2003, 48.1% of women agreed with one or more of the statements supportive of traditional gender roles, compared with 38.4% in 2019. These were low percentages of agreement compared with women in low-income and middle-income countries.[31–33] Agreement with attitudes supportive of justifications for a man hitting his wife was low in both the 2003 (0.2%–3.8%) and 2019 surveys (0.2%–2.3%), and extremely low compared with results reported from low-and middle-income countries.[34 35] but comparable with high income countries.[36] Even with this low rate of agreement, change was still observed, with a significant reduction in agreement with the statement that 'it is acceptable for a man to hit his wife if he found out she was unfaithful', from 3.8% in 2003 to 1.8% in 2019.

Overall, among women who experienced IPV, the rates of disclosure (telling someone about the violence) were high (77% in 2003, 70% in 2019), compared with findings from low-income and middle-income countries,[37 38] and comparable with high-income countries.[39] It should be noted, however, that most disclosures were made to informal sources, such as family or friends. There was no change in 'help received' from formal sources (21.1% in 2003, 19.4% in 2019). This warrants further attention, to determine if this is due to limited service capacity, or limits in the quality of help currently available.

Table 5 Prevalence rates and changes in help sought and help received between 2003 and 2019 by those who reported at least one type of sexual or physical IPV

		Help sought (Who you told about IPV)				*Who helped you with IPV*			
Source of help		**2003 (n=957)**	**2019 (n=322)**	**OR**	**P value**	**2003 (n=957)**	**2019 (n=322)**	**OR**	**P value**
No one		223 23.3 (20.6 to 26.3)	89 30.0 (24.8 to 35.9)	1.41 (1.04 to 1.92)	0.027	397 40.6 (37.5 to 43.9)	125 39.9 (34.5 to 45.6)	0.97 (0.74 to 1.27)	0.8
Informal sources		679 71.3 (68.1 to 74.2)	216 64.6 (58.7 to 70.1)	0.74 (0.55 to 0.98)	0.037	489 52.0 (48.8 to 55.3)	171 52.1 (46.4 to 57.7)	1.00 (0.77 to 1.30)	0.9
Formal sources	Police/lawyer/court	132 13.6 (11.4 to 16.2)	49 13.8 (10.4 to 18.2)	1.02 (0.69 to 1.49)	0.9	89 9.1 (7.4 to 11.2)	31 8.8 (6.1 to 12.5)	0.96 (0.61 to 1.50)	0.8
	Women's refugee/ Non-governmental organisation/women's organisation/Marae	44 4.5 (3.2 to 6.3)	24 6.9 (4.3 to 11.0)	1.57 (0.84 to 2.91)	0.15	43 4.3 (3.1 to 5.9)	19 5.3 (3.1 to 8.9)	1.24 (0.64 to 2.37)	0.5
	Health workers	125 12.9 (10.8 to 15.4)	40 11.2 (8.2 to 15.1)	0.85 (0.57 to 1.26)	0.4	71 7.7 (5.9 to 9.9)	26 8.0 (5.4 to 11.6)	1.04 (0.63 to 1.71)	0.8
	Counsellor	168 16.7 (14.4 to 19.2)	45 12.2 (8.9 to 16.6)	0.69 (0.47 to 1.03)	0.07	103 10.4 (7.4 to 14.3)	37 10.4 (7.4 to 14.3)	0.98 (0.64 to 1.49)	0.9
	At least one	294 30.3 (27.3 to 33.4)	93 25.8 (21.1 to 31.1)	0.80 (0.59 to 1.08)	0.1	203 21.1 (18.5 to 24.0)	67 19.4 (15.2 to 24.4)	0.90 (0.64 to 1.25)	0.5
Religious leader (priest in 2003)/church member		31 3.2 (2.2 to 4.8)	4 1.1 (0.4 to 2.8)	0.32 (0.11 to 0.93)	0.037	16 1.8 (1.0 to 3.1)	5 1.3 (0.5 to 3.2)	0.73 (0.26 to 2.08)	0.5

IPV, intimate partner violence.

Possible explanations for the study findings include: actual changes in perpetrator behaviour over time; or changes due to differences in methods, measurement or samples.

There is some evidence that changes in perpetrator behaviour may have occurred, as the reduction in the 12-month prevalence of physical and lifetime sexual IPV between 2003 and 2019 is consistent with a reduction in 12-month prevalence of psychological IPV noted in the same sample.[40] Changes in perpetrator behaviour are possible, as there have been a series of strategies and campaigns implemented between the two study years. These included: changes in legislation (eg, amendments to family violence law), and the introduction of prevention campaigns and programmes (eg, the Family Violence: It's not ok national campaign,[41] and the Accident Compensation Corporation-funded Mates and Dates high schools programmes on healthy relationships[42]). These actions may have contributed to changes in societal awareness and understandings of attitudes supportive of violence against women as there is some evidence that these initiatives had wide population reach.[40] This interpretation is supported by our findings on the reduction in women's agreement with attitudes towards traditional gender roles and reduction in women's agreement with the acceptability of a man hitting his wife if she was unfaithful. Other studies have also noted the relationship between attitudes to violence and victimisation.[43 44]

An additional feature of these societal actions was the call for those experiencing violence to reach out for help.[41] Our findings suggest that there has been no change in women contacting formal sources of help, and a small but significant reduction in talking with informal sources. As help seeking can be related to the severity of violence experienced, it is possible that the lack of change in accessing formal help among women is related to the reduction of current physical, and lifetime sexual IPV between the studied years and a possible decrease of high severity cases. However, it is also possible that activities designed to encourage community engagement in violence prevention may need additional resourcing to ensure a sustained response and appropriate access to necessary services. Further research with larger sample sizes will be important to verify this finding.

The alternate explanation of the observed changes being due to differences in study methods or sample difference seem less likely. Specifically, the comparability of methods across the two surveys, including use of identical questions in the two survey waves, lends strength to the interpretation that the prevalence changes noted are real. Additionally, while there were some differences in the characteristics of the two samples, the AOR showed that after controlling for all sociodemographic factors, the observed differences in prevalence still remained significant.

The observed reduction in 12-month prevalence of physical IPV is positive, and parallels overall reductions in crime rates reported by crime and victimisation surveys,[45] and is similar to reductions in prevalence of IPV documented in Australia between 1996 and 2005.[46] It may be the result of more women recognising abusive behaviour and taking their own actions to leave abusive relationships. However, further efforts and investment are needed to ensure that those who ask for help actually receive help. Importantly, the stability of the lifetime prevalence of physical IPV should heighten efforts to develop and implement comprehensive and sustained prevention work with those who use violence in relationships.

Strengths

Strengths include: the representativeness of the samples obtained, and the use of comparable methods and comparable questions across the two survey waves. Additionally, the 15-year time gap between the two survey waves is sufficient to determine if real change occurred.[12]

Limitations and recommendations for future studies

Changes between two time points are not sufficient to determine if the change represents a trend, so caution is needed when interpreting the changes observed. Overall, the prevalence estimates obtained may under-report what is happening in the population as a whole, either because of stigma,[47] or because of the overall response rate for the study. While we successfully surveyed over 63% of eligible women, those with greater levels of exposure to violence may be less likely to have participated. Future studies would benefit from larger sample sizes, which would improve the chance of detecting real changes in low base rate phenomena, such as 12-month prevalence of sexual IPV.

CONCLUSION

The observed reduction in 12-month physical and lifetime sexual IPV prevalence rates, changes in attitudes about the acceptability of violence, and the increases in help seeking are positive. However, work is still needed to address the substantial problem of IPV, as the lifetime prevalence rate of one in three women experiencing IPV remained stable over the 15-year time interval. This means that prevention efforts must be increased and sustained, and that adequate structures and resources must be available to respond to those seeking help.

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