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Prevalence of violence against women reported in a rural health region

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This article has been peer
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Introduction: Violence against women in Canada is an important public health problem. Published research that reports prevalence of violence against women by province or region is limited, and estimates of the rates of violence experienced by rural women are sparse.

Methods: This study reports the results of a secondary analysis of data to examine the prevalence of physical and sexual assault reported by women in a rural health region in Alberta, Canada. The report of assault was then examined to determine its relationship to self-reported health conditions, behaviours and health service use.

Results: In this study, 5% of women reported experiencing physical assault in the last 12 months and 23% reported experiencing sexual assault in their lifetime. Younger women reported more assault than older women. Women who reported sexual assault were more likely to report having used illicit drugs. Women who reported physical assault within the last 12 months were significantly more likely to also report having accessed mental health services and emergency services within the past year. Most women had seen a general practitioner or family doctor within the last 12 months.

Conclusion: We argue that an integrated community-based model of service that includes the health sector is necessary to address violence against women in rural areas.

Introduction : La violence envers les femmes au Canada constitue un important problème de santé publique. Les recherches publiées sur la prévalence de la violence envers les femmes selon la province ou la région sont limitées et les estimations des taux de violence envers les femmes rurales sont rares.

Méthodes : Cette étude présente les résultats d'une analyse secondaire de données portant sur la prévalence de la violence physique et sexuelle signalée par les femmes d'une région rurale de l'Alberta, au Canada. On a ensuite étudié le rapport de l'agression pour déterminer son lien avec des problèmes de santé, des comportements et l'utilisation des services de santé autodéclarés.

Résultats : Dans le cadre de cette étude, 5 % des femmes ont déclaré avoir été victimes d'une agression physique au cours des 12 derniers mois et 23 % ont déclaré avoir déjà subi une agression sexuelle. Les jeunes femmes ont déclaré plus d'agressions que les femmes âgées. Les femmes qui ont déclaré avoir subi une agression sexuelle étaient plus susceptibles de signaler avoir consommé des drogues illicites. Les femmes qui ont déclaré avoir été victimes d'une agression physique au cours des 12 mois précédents étaient beaucoup plus susceptibles de signaler aussi qu'elles avaient eu recours à des services de santé mentale et à des services d'urgence au cours de l'année écoulée. La plupart des femmes avaient consulté un omnipraticien ou un médecin de famille au cours des 12 mois précédents.

Conclusion : Nous soutenons qu'il faut un modèle communautaire intégré de services qui comprenne le secteur de la santé pour lutter contre la violence envers les femmes en milieu rural.

INTRODUCTION

Violence against women is an important problem with substantial public

health implications. Half of all women murdered around the world in a given year are killed by partners or by husbands.¹ Recent reports estimate 23% of

Canadian women are abused each year² and that gender-based violence in Canada costs health and justice services in excess of \$1.5 billion annually.³ Multiple health conditions in women are associated with a history of having experienced violence,³ yet published Canadian research that studies the relationship between violence and health is sparse.²

Estimates of the prevalence of violence against women vary, in part due to multiple definitions of violence and inconsistent data-collection time frames to describe when the violence took place.⁴ The 1993 telephone Canadian Violence Against Women Survey (VAWS) selected 12 300 women by random digit dialling and interviewed them about their experiences with violence.⁵ In this nationally representative sample, just over half (51%) of the women interviewed reported having experienced at least one incident of physical or sexual violence since the age of 16.⁶ The 1999 General Social Survey (GSS), also a telephone survey, interviewed 9178 women about their experiences of violence over the previous 1-year period.⁷ It estimated spousal violence against women at 8%, but that survey limited questions to spousal relationships, with less emphasis on women's other experiences of violence or sexual violence.⁶ Published research that reports prevalence of violence against women by province or region is limited and also subject to complexities of multiple definitions and methods. For example, in the 1993 VAWS 58% of women in Alberta reported having experienced violence, with 30% reporting spousal assault.⁶ However, a random digit dial survey conducted in Alberta (also in 1993) estimated rates of wife abuse as physical (10.6%) or psychological (13.1%).⁸

Estimates of the rates of violence experienced by rural women in Canada are few,¹ although one study showed reported rates of violence varied little between urban and rural women.⁹ Although the rates of violence may be similar, availability of services, including health services, that address domestic violence is not.^{1,10} Limited access to services restricts women's options for solutions that aid them in leaving abusive relationships,⁹ thus heightening risk and disadvantaging rural women.¹ Studies in other countries also recognize that differences in availability of health services to support women experiencing violence in rural areas may have a detrimental impact on women's health care needs and/or trap women in an abusive relationship.¹¹⁻¹³

The purpose of this paper is to present evidence that violence against women should be considered a serious public health issue in rural regions. This study reports the results of a secondary analysis of

data representative of the population in a rural health region in Alberta, Canada. The purpose of the analysis was to examine the prevalence of physical and sexual assault reported by women living within this rural area, and to examine the relationship to self-reported health conditions, behaviours and health service use.

METHODS

Original survey

The primary purpose of the original survey was to describe health status, behaviours and health services utilization by the population living within the health region. The original survey was conducted in 1999 as a random digit dial survey, using the Mitofsky-Waksberg method that was modified to increase the likelihood of obtaining a representative sample for epidemiological research, as described by Potthoff.¹⁴ Eligible telephone prefixes for the health region were selected, with the remaining telephone digits randomly generated among clusters of residential numbers. The person eligible to respond to the survey was the person whose birthday was the most recent and was 16 years old at the time of the interview. The University of Calgary's Conjoint Health Research Ethics Board approved the research.

Administering the survey

After obtaining oral consent, trained research assistants administered the survey using a tightly scripted procedure. Questionnaire items included those used in national and provincial surveys to assess health conditions by self-report and included a validated tool for measuring major depression — the Composite International Diagnostic Interview short-form (CIDI-SF) for major depression.¹⁵ In order to be classified as depressed, subjects were required to endorse 5 or more of the symptoms covered by the interview, and at least 1 of these symptoms needed to be depressed mood or anhedonia. According to the validation data,¹⁵ this scoring procedure should result in a 90% predictive value for major depression. For health conditions, interviewers read a list of health problems (e.g., asthma, diabetes, cancer) and asked respondents whether they had the condition as diagnosed by a medical doctor or had any other diagnosed long-term conditions. Health behaviours examined included tobacco smoking, alcohol consumption and lifetime history of illicit drug use.

The survey also questioned the individual's use of health services, as read from a list by the interviewers, within the past 12 months. Health services examined included whether or not the woman had accessed the services of a general practitioner or family doctor, emergency services or mental health services, and her history of obtaining Pap smears and mammograms. Social support was measured by a series of 4 questions; however, information about women's use of social services was not collected.

Data analysis of original survey

Data were obtained from 801 men and women. Sampling weights were calculated to account for random digit dial survey sampling probabilities,¹⁴ and a post-stratification adjustment was made to the demographic profile of the target population.

Secondary analysis

For this secondary analysis, the data set was modified to include only women ($n = 526$). All statistical analyses were weighted to account for survey sampling strategies. Thus, reported percentages or proportions and their 95% confidence intervals (95% CI) were weighted accordingly. In the original study, physical assault and sexual assault were collected for different time frames and for different age ranges. Thus, women who reported physical assault were analyzed separately from those who reported sexual assault. Women who reported both sexual and physical assault ($n = 9$) were not considered as a separate group, and are therefore included in each analysis.

RESULTS

Reported assault

Physical assault

The original survey question addressing physical assault was:

- *During the past 12 months, how many times did someone physically attack or assault you?*

For this secondary analysis, women's responses were collapsed into a binomial variable — reported physical assault Yes/No. About 5% ($n = 28/526$) of the women in the survey reported having experienced physical assault in the last 12 months (95% CI 3.2%–7.7%). Women who reported physical assault were asked whether the assailant was a

stranger, a legal or common-law spouse, or someone known to them other than their spouse. Eighteen women (66.7%) reported the assailant as a person known to them other than their spouse (95% CI 48.7%–84.7%).

Sexual assault

Only women 18 years of age ($n = 515$) were asked about sexual assault. The original survey question was:

- *Has a male ever forced you or attempted to force you into any sexual activity by threatening you, holding you down or hurting you in some way?*

Of the 515 eligible women 3 women declined response to this question; these 3 are included as not having reported sexual assault. Twenty-four percent of the women ($n = 126$) reported experiencing sexual assault at some time during their lives (95% CI 18.6%–27.8%). Women who reported sexual assault were asked about the nature of the assailant with the question, "Was the assailant a stranger?" One woman declined response; of the 125 remaining, 84% answered "No" (95% CI 77.8%–91.0%).

Demographic variables

Age

Women in the sample ranged in age from 16–90 years, with a mean age of 44.1 years (95% CI 42.4–45.7). The distribution of reporting assault differs by age group and the nature of the assault. Women who reported physical assault in the last 12 months had a mean age of 31.6 years (95% CI 25.1–38.1). The report of physical assault was positively skewed; that is, younger women reported physical assault more often than older women. Women <30 years of age comprised more than half of the women reporting physical assault (Table 1).

Women who reported having experienced a sexual assault at some time during their lives had a mean age of 41.4 years (95% CI 38.9–43.9). The report of sexual assault is more normally distributed than the report of physical assault. Over half of the women reporting sexual assault were in their 30s and 40s, and the report of having experienced sexual assault at some time during their lives decreased sharply after age 59 (Table 1).

Marital status

The majority (62%) of women in the sample were

married (95% CI 57.8%–66.6%) or single (15%) (95% CI 11.3%–18.7%). About 8% of the women were divorced (95% CI 5.9%–10.8%), 7% common-law (95% CI 4.0%–9.9%), 6% widowed (95% CI 3.9%–7.7%), and 2% of the women reported being separated (95% CI 1.0%–3.2%).

Significant differences in marital status among the women reporting physical assault in the last 12 months were found ($F = 5.96, p < 0.001$). Single women comprised 43% of the women reporting physical assault (95% CI 23%–63%). This was followed by married women, who comprised 30% of the women reporting physical assault (95% CI 10%–50%), and 19% of women in common-law relationships (95% CI 2%–35%). Women who were divorced or separated made up the remaining 8%; no widows reported physical assault. Because the nature of the assailant included a spouse as a possible response and the report of physical assault question referred to incidents within the last 12 months, the nature of the assailant was investigated by marital status for women who reported physical assault. Most women reported the assailant was neither a stranger nor a spouse. These results are summarized in Table 2.

There were also significant differences in marital status in women reporting sexual assault ($F = 2.7, p = 0.02$). About half (51.6%) of the women who reported having experienced sexual assault over their lifetime were married (95% CI 42%–62%), another 20.4% were single (95% CI 12%–28%) and

13% were divorced (95% CI 7%–19%). Spousal relationships were not distinguished in the question regarding the nature of the assailant if the woman reported sexual assault.

Other demographic characteristics

Other demographic variables that were examined for differences in the report of physical or sexual assault included highest level of education completed, employment status and whether the woman lived in a town or the country. Level of education showed significant differences for the report of physical assault, which were eliminated if women <18 years of age were excluded (i.e., younger women were more likely to report physical assault, but were also more likely not to have completed high school). Women who reported assault were more likely to be employed; 84.5% of the women reporting physical assault (95% CI 70%–99%) and 73.8% of the women reporting sexual assault (95% CI 66%–82%) were employed. Whether a woman lived in a town or the country was not statistically significantly associated with the report of either physical or sexual assault.

Health factors

Health conditions

Women were asked to rate their overall general health status on a 5-point scale ranging from Poor to Excellent. Rating of general health status did vary significantly among women who reported physical assault in the last 12 months, but not among those who reported sexual assault. Women who reported physical assault rated their health as excellent in smaller proportions than women who reported no assault. The number of women report-

Table 1. Results of secondary analysis of the 526 women who responded to the original survey; no. of women who reported assault, by age group

Age group, yr	No. (and proportion)*	
	Physical assault (n = 28)	Sexual assault (n = 126)
16/17†	5 (0.22)	Not asked
18/19†	1 (0.03)	–
20–29	9 (0.28)	19 (0.18)
30–39	5 (0.17)	37 (0.32)
40–49	5 (0.18)	33 (0.26)
50–59	2 (0.08)	22 (0.17)
60–69	–	10 (0.05)
70–79	1 (0.04)	5 (0.02)
80–89	–	–
≥90	–	–
Total	28 (1)	126 (1)

*Proportions are weighted to account for survey sampling strategies.
†Age <20 years is divided to account for differences in questioning: women <18 years were not asked about sexual assault; all women were asked about physical assault.

Table 2. Nature of assailant, among 28 women who reported physical assault, by woman's marital status

Woman's marital status†	No. (and proportion)* of women who reported each category of assailant			
	Stranger	Spouse	Other	Total
Married	2 (0.09)	2 (0.06)	4 (0.15)	8 (0.30)
Common law	0	2 (0.09)	2 (0.10)	4 (0.19)
Single	1 (0.03)	0	11 (0.40)	12 (0.43)
Separated	0	2 (0.04)	0	2 (0.04)
Divorced	1 (0.03)	0	1 (0.02)	2 (0.05)
Total	4 (0.14)	6 (0.19)	18 (0.67)	28 (1.00)

*Proportions reported are survey weighted. Due to rounding error, total may not equal stated amount; $F = 2.12, p = 0.04$.
†No widows reported physical assault.

ing any given chronic condition was small, decreasing the reliability of further statistical investigation; thus an individual's total number of self-reported chronic conditions was used. The number of chronic conditions reported by an individual did not vary significantly with the report of either kind of assault. These results are summarized in Table 3. Major depression was not statistically significantly associated with the report of either type of assault.

Behaviours that affect health

Tobacco smoking was not statistically significantly associated with the report of assault. Alcohol consumption was asked about in the survey, and those who drank alcohol were asked if they regularly consumed more than 12 drinks per week (defined for this study as heavy consumption). Only 13 women answered Yes to this question. Statistically significant differences were evident in the report of physical assault and heavy alcohol consumption; more women who reported heavy alcohol consumption also reported physical assault. However, the significance disappeared when those <18 (legal drinking age in Alberta) were excluded; that is, women <18 years were more likely to report heavy alcohol consumption and more likely to report physical assault.

Lifetime history of illicit drug use was also queried. About 30% of the women in the survey admitted having used illicit drugs at least once in

their lifetime (95% CI 24.6%–34.5%). Women reporting sexual assault were significantly more likely than women not reporting sexual assault to also report illicit drug use. These results are summarized in Table 4.

Social support

In the survey, social support was measured by a series of 4 questions:

- *Do you have someone you can really confide in or talk to about your private feelings or concerns?*
- *Do you have someone you can really count on to help you out in a crisis situation?*
- *Do you have someone you can really count on to give you advice when you are making important personal decisions?*
- *Do you have someone who makes you feel loved and cared for?*

These questions were overwhelmingly answered affirmatively. In any given question, 94% or more of the women answered Yes, with 2 or fewer women not answering any given question. In order to further investigate the association of social support with the outcomes of assault, a new variable was created such that any woman who did not answer Yes to all 4 questions was defined as having "reduced social support." Reduced social support was not significantly associated with the report of either physical or sexual assault.

Health services use

The use of general practitioner or family doctor services, emergency services and mental health services were all investigated in terms of their association with the report of physical or sexual assault. Women who reported physical assault were significantly more likely than women who did not report physical assault to have used emergency services and mental

Table 3. General health status and no. of chronic conditions among the 526 female survey respondents

Variable	No. (and proportion)* of women		
	All respondents (n = 526)	Those who reported physical assault (n = 28)	Those who reported sexual assault (n = 126)
General health status			
Excellent	160 (0.29)	2 (0.06)	30 (0.24)
Very good	193 (0.38)	10 (0.39)	47 (0.42)
Good	114 (0.23)	10 (0.30)	47 (0.42)
Fair	41 (0.08)	5 (0.23)	12 (0.08)
Poor	18 (0.03)	1 (0.02)	6 (0.03)
No. of chronic conditions			
None	90 (0.17)	4 (0.15)	12 (0.12)
1	113 (0.23)	5 (0.13)	26 (0.22)
2	123 (0.25)	6 (0.21)	31 (0.26)
3 or 4	122 (0.23)	8 (0.29)	29 (0.22)
≥5	78 (0.13)	5 (0.22)	28 (0.17)

*Proportions reported are proportions of those who reported the specified assault. Proportions reported are survey weighted; due to rounding error total may not exactly equal 1.
Notes: Those who declined to respond or did not know are not reported (n ≤ 3 for any category).

Table 4. Illicit drug use and sexual assault for the 526 female survey respondents

Illicit drug use in lifetime?	Sexual assault, no. (and proportion)* of respondents		
	No	Yes	Total*
No	296 (0.75)	72 (0.57)	368 (0.71)
Yes	93 (0.25)	53 (0.43)	146 (0.29)
Total*	389 (1.00)	125 (1.00)	514† (1.00)

*Proportions reported are survey weighted. Due to rounding error, total may not equal stated amount; F = 9.9, p = 0.002.
†Women 18 years and younger were not asked about sexual assault; therefore there were only 515 eligible respondents. One of the 515 declined to respond.

health services within the past 12 months. Although rates of having seen a general practitioner or family doctor in the last 12 months did not differ significantly between women who did and did not report physical assault, it is important to note that all women who reported physical assault ($n = 28$) also reported having seen a general practitioner or family doctor within the last 12 months. No significant differences in use of the identified health services were found among women who reported sexual assault. These results are summarized in Table 5. No statistically significant differences in rates or how recently women had obtained Pap smears and mammograms were discovered between groups of women reporting and not reporting assault.

DISCUSSION AND IMPLICATIONS

The population-based estimate of the prevalence of violence against women in a rural area in Canada adds important information to published research. Our findings that 5% of women had experienced physical assault in the last 12 months and 23% had experienced sexual assault over their lifetimes are lower than the 1993 VAWS.⁶ However, the VAWS included broader definitions and lifetime estimates for both types of assault, so prevalences would be expected to be higher. That more women reported sexual assault than physical assault is in part influenced by the longer reporting time frames for sexual assault. However, if the frequency of sexual assault was constant over time, then reported lifetime assault should theoretically increase with age and one would expect older women to report more sexual assault than younger women. In this study,

women in their 30s reported the highest proportion of sexual assault, and the proportion of reported assault decreased for women >39.

The drop off in the report of physical and sexual assault as women age is not uncommon.^{6,8,16-19} Little empirical research has been found that documents whether the decrease in report of assault as women age is reflective of a cohort effect (younger women are living in a more violent society and more likely to experience assault than older women) or misclassification bias (older women are less likely to report assault even if they have experienced it and are subsequently misclassified as not having experienced assault). One study suggests the most likely explanation is a combination of the two.²⁰

Women in rural Canada who are victims of violence may face complications due to geographic isolation, lack of services (e.g., shelters) and, sometimes, employment shared with their partners (e.g., farming^{21,22}), but there is sparse published research about rural women's experiences with violence.¹ One study reported that rural women are more likely than urban women to leave abusive partners but are also more likely to return.⁹ Because women are at higher risk of spousal assault when attempting to leave the relationship⁶ and because previous assault is highly predictive of future victimization,²³ this suggests rural women may be at higher risk for repeated assault.

No published research demonstrating a causal relationship between poor health status and assault (i.e., poor health status as a risk factor for assault) was found, except for women with disabilities, assuming disability reduces health status. Women with disabilities that limit their activities and independence do experience a far higher rate of intimate

Table 5. Use of health services and report of assault for the 526 female survey respondents

Type of service accessed in the last 12 months	No. (and proportion)* of women				
	All respondents ($n = 526$)	Physical assault ($n = 28$)		Sexual assault ($n = 126$)	
		No	Yes	No	Yes
General practitioner					
No	41 (0.07)	41 (0.08)	0	30 (0.07)	9 (0.09)
Yes	485 (0.92)	457 (0.92)	28 (1.00)	359 (0.93)	117 (0.91)
Emergency					
No	428 (0.80)	411 (0.82)	17 (0.57)	316 (0.80)	102 (0.80)
Yes	98 (0.20)	87 (0.18)	11 (0.43)†	73 (0.20)	24 (0.20)
Mental health					
No	490 (0.94)	469 (0.95)	21 (0.76)	369 (0.94)	110 (0.90)
Yes	36 (0.06)	29 (0.05)	7 (0.24)‡	20 (0.06)	16 (0.10)

Note: Those who declined to respond or did not know are not reported ($n < 2$ for any category).

*Proportions reported are proportions of those who reported the specified assault. Due to rounding error, totals may not exactly equal 1.

† $p = 0.002$

‡ $p < 0.001$

partner violence and sexual assault and their sequelae than women without disabilities.²⁴⁻²⁶ The current Canadian context of reduced services to address violence against women differentially and negatively affects women marginalized by disabilities;²⁷ whether this effect is compounded for rural women with disabilities is unknown. Longitudinal research that investigates the relationships between violence, health status, disabilities and health services for rural women would provide important information about health service provision of violence interventions in this population.

Physical assault and youth

The prevalence of physical assault in adolescent women is alarming. Further examination of the data presented in Table 1 and Table 2 showed that of the 9 young girls in the study aged 16 or 17 years, 5 reported experiencing physical assault within the last 12 months and all reported the nature of the assailant as being a person known to them. Assault by strangers seems a lesser concern. Recent research highlights rural youth violence as a heretofore under-recognized public health issue in Canada,²⁸ with increasing violence among adolescent girls a notable concern.²⁹ Moreover, violence among adolescent girls is known to be different in cause and expression than violence in adolescent boys.²⁹ Although the age of the assailant was not disclosed in our survey, Statistics Canada data report victims of youth violence are often acquaintances with the assailant and of a similar age range.³⁰ Qualitative analysis of responses of an Alberta youth survey demonstrated that altercation with siblings or boyfriends was a common cause of serious incidents of violence-related delinquency.³¹ Thus, bullying by female or male friends is one plausible explanation for our findings; another is that the young women are being assaulted by family members.

Our data attest that further research in the area of rural youth violence is well warranted. As adolescent girls sometimes cope with unequal power dynamics in their dating relationships by engaging in known health-risking behaviours, including tolerating violence,³² gender-based research that uncovers the context and dynamics of violence against young rural women and how they do or do not address experiences of violence through health services is vital.

Sexual assault

The lifetime prevalence of sexual assault (23%)

reported in this survey is less than that of the 1993 VAWS estimate of sexual assault experienced by women in Alberta (42%).⁶ However, the VAWS included a wider range of questions about sexual assault and included women 16 years, and is consequently more comprehensive than the data considered here. In one study of adolescent women in Alberta high schools, 23% reported having experienced at least one incident of sexual assault.³³ In the current study, if women <18 had been questioned about sexual assault, it is likely our estimate of the prevalence of sexual assault would be higher. In the VAWS, 81% of women who had experienced sexual assault reported the assailant was not a stranger, similar to our result of 84%. Thus women are at much higher risk of physical or sexual assault from people known to them rather than strangers.

Health conditions and behaviours

The lack of a relationship between the number of chronic conditions reported by an individual and the report of assault may reflect the inappropriateness of investigating this variable in association with assault. With larger sample sizes, the association of individual chronic conditions may be more appropriate than the total number of chronic conditions reported by an individual. Our finding that women who reported sexual assault were more likely to report having used illicit drugs at least once in their lifetime reflects the findings of other researchers.^{23,34,35} The cross-sectional nature of this data limits conclusions as to whether the substance abuse is a factor that increases women's risk of assault or is an effect of the assault. However, other researchers have shown continued substance abuse increases the risk of subsequent assault.^{23,34,35} Given that alcohol often plays a role in sexual assault,³⁶ the association between youth, heavy drinking and report of assault found in this study also warrants further research. The lack of association between depression and the report of assault in this data are unlike that of other researchers,^{8,35,37} but may reflect differences in definitions. The current study emphasized diagnosed clinical depression or major depressive episodes; other mental health conditions were not investigated, which might have underestimated mental health effects often found with the report of assault.

Health services use and social support

Despite the lack of statistically significant association between depression and the report of assault, it

is important to note that women who reported physical assault within the last 12 months were significantly more likely to also report having accessed mental health services and emergency services within the last year. In addition, all women who reported physical assault also reported having visited a general practitioner or family doctor within the last 12 months. Although the cross-sectional data limit our conclusions about the timing of physician visits (i.e., before or after the assault), the data suggest that women were regularly accessing health services, and there were likely opportunities for health service providers to screen for and address the assault. Recent data suggest that women welcomed routine physician screening for violence if the intervention matched the woman's level of awareness of the violence and her stage of change.³⁸

The lack of an association between social support and assault in this study may reflect the limited nature of the data collected about social support, as women who experience violence have been shown in other research to have lower social support.³⁹ Women who experience violence tend to seek help from family and friends (especially if the assailant is known to them) and are more likely than men to use mental health services, social services and self-help groups but are less likely to seek police help.⁴⁰ Research that compared the rates of help-seeking behaviour among women who experienced abuse in the 1993 VAWS and the 1999 GSS, suggests the rates are changing over time; significantly more women in the GSS disclosed abuse and sought help from available services.⁴¹ Of note, 31.9% of women in the GSS disclosed a violent incident to a doctor or nurse, compared with 23.0% in the VAWS.⁴¹ Although rates of women disclosing abuse to health care professionals may be improving,⁴¹ whether this is true of women in rural areas is not known. Further research, including qualitative research, is needed about social supports, health services and support services that rural women experiencing violence can or cannot access. Such research would give further insight into the nature of help-seeking behaviours among rural women and provide evidence of where best to allocate limited resources.

Because most of the women who reported assault in this survey also reported accessing the services of a general practitioner or family doctor within the last 12 months, there is even more reason for the health sector, with its relatively stable resources compared with the non-profit sector, to get involved in primary, secondary and tertiary prevention of violence against rural women. Radomsky demonstrated that even in

long-term clinical relationships with their family doctors, women's experiences of abuse often go unrecognized.⁴² An integrated community-based model⁴³ that takes gender and other determinants of health into account will address the special characteristics of rurality that can prevent (e.g., strong social support, knowing your neighbours) or exacerbate (e.g., lack of confidentiality, self-triage from primary care, travel challenges) violence against women.⁴⁴⁻⁴⁶ Intersectoral collaboration will be particularly important as the health sector can only work beside the educational, justice, religious and other sectors.

Strengths and limitations

The anonymity of this survey is both a strength and a limitation as women may have responded more or less openly about the experience of assault. However, because the data are a representative sample of a Canadian rural health region and were gathered as part of a general health information survey, it provides population data rather than data specific to a clinical sample (e.g., women living in shelters). The information is limited by its cross-sectional nature and the self-reported health conditions without supported objective medical evidence. However, the questions used were obtained from population surveys well tested in the Canadian population.

CONCLUSION

Our data suggest that physical and sexual assault are prevalent among rural women and linked to health status and health service use. Although cross-sectional data prevent conclusions about the causal relationship between the experience of assault and health status and health service use, it seems likely that assault leads to poorer health status and increased health services use. The higher prevalence of assault reported by younger rural women in this study and the relationships between assault and substance use suggest that, to aid prevention, identification and treatment of domestic violence, qualitative gender-based research would improve understanding of the context in which assault occurs. As most of the women in the study had accessed the services of a general practitioner or family doctor in the last 12 months, including all women who reported recent assault, the health sector that serves rural women may have opportunities to be involved in addressing and preventing assault. Thus, the health sector is well placed to work with other sectors (e.g., education, justice) and community-based services to develop an integrated, col-

laborative model of service based on the determinants of health, to address the unique needs of rural women facing domestic violence.

Acknowledgements: We thank the Journal editor and reviewers for their comments and suggestions that helped the revision. Our thanks also to Kathy Dirk for her invaluable assistance in the preparation of the manuscript.

Competing interests: None declared.

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