

ORIGINAL RESEARCH

THE IMPACT OF INTIMATE PARTNER ABUSE ON WOMEN'S HEALTH IN THE BOWEN BASIN AND MACKAY REGION OF CENTRAL QUEENSLAND, AUSTRALIA

STEWART LOCKIE¹, HEATHER NANCARROW² and SANJAY SHARMA³

¹Research School of Social Sciences, The Australian National University, Canberra; ²Queensland Centre for Domestic and Family Violence Research, CQ University Australia, Mackay; and ³Queensland Centre for Domestic and Family Violence Research, CQ University Australia, Mackay, Australia.

Corresponding author: Professor Stewart Lockie (stewart.lockie@anu.edu.au)

ABSTRACT

Objectives: To ascertain the prevalence of male-to-female partner abuse in the Bowen Basin and Mackay region and to identify the impact of this abuse on women's health status and help-seeking behaviour. **Methods:** A stratified random sample of 532 adult women living in intimate, heterosexual relationships was surveyed by telephone in June and July, 2007. The interview schedule included measures of physical and non-physical abuse by current partners, socio-demographic and behavioural characteristics of women and their partners, physical and mental health, and help-seeking. For most analyses, data were weighted to reflect the actual population distribution of the Bowen Basin region including Mackay. **Results:** Nine point two per cent of women had experienced some form of physical abuse and 29.1 had experienced some form of non-physical abuse at some time in their current relationship. Partner abuse had little impact on women's physical well-being at a population level. However, all forms of abuse were strongly correlated with negative impacts on women's mental health. Women subjected to physical abuse in the preceding 12 months were 16.1 times more likely to show evidence of severe psychological symptomatology and 5.0 times more likely to show evidence of depression. **Conclusion:** The study found significant negative mental health consequences for women experiencing any form of abuse and reluctance to seek counselling and support services. Support services and education and prevention programs must recognise that all forms of partner abuse, including non-physical forms, result in depression and severe psychological symptomatology which are likely to affect women's help seeking behaviour.

KEY WORDS: Spouse abuse; Female; Mental health; Rural and remote health.

SUBMITTED: 15 September 2009; **ACCEPTED:** 20 February 2010

INTRODUCTION

It is estimated that 87% of victims of domestic violence in Australia are female and 98% of perpetrators are male (Access Economics, 2004). A recent report by the Australian Institute of Criminology suggested that nearly 10% of Australian women aged 18 to 69 have experienced physical violence from their current partner (Mouzos and Makkai, 2004). The 2005 Personal Safety Survey, a rigorous national study based on face-to-face interviews with over 17,300 Australians found that 39.9% of all Australian women had experienced some sort of physical violence since turning 15, and 19.1% had experienced sexual violence (ABS, 2006). This study found that 16% of women had experienced violence by a current or previous partner since turning 15. Domestic violence - including physical and psychological abuse - was estimated to cost Australia approximately \$8.1 billion a year (Access Economics, 2004). Of this, \$3.5 billion was attributed to pain, suffering and premature mortality (measured by Quality Adjusted Life Years lost as a result of injury and illness) and a further \$338 million was attributed directly to health care. Overwhelmingly, these costs were borne by victims (Access Economics, 2004). In the absence of concerted action, it was estimated that the total cost of violence against women and their children will increase to \$15.6 billion by 2021/22 with victims and survivors continuing to pay over half of these costs (NCRVWC, 2009). Another study showed that intimate partner violence was the leading cause of preventable death, disability and illness in Victorian women aged 15 to 44 (VicHealth, 2004). This study demonstrated that intimate partner violence alone contributes to 9% of the disease burden in this age group.

Women living in rural and remote locations are widely believed to face additional vulnerabilities and costs in relation to domestic violence due to isolation from social and professional support coupled with difficulty accessing available services, such as police, due to stigma and lack of confidentiality (WESNET, 2000). However, few data are available on the prevalence of violence and other forms of intimate partner abuse in rural and remote areas, or on the relative impacts of abuse on rural and remote women's health and wellbeing. Further, few studies have been undertaken into the functioning and wellbeing of the growing cohort of families that resides in major regional and metropolitan centres while one or more member commutes to rural and remote areas for work (Lockie et al., 2009). This study, therefore, focuses on intimate partner abuse among cohabiting, heterosexual partners living in the Bowen Basin and Mackay region of Central Queensland. Its objectives are to determine the prevalence of male-to-female partner abuse in the Bowen Basin and Mackay region, to identify the impact of abuse on women's health status, to explore women's awareness and use of counselling and support services within their locality, and to ascertain whether women residing in rural localities and small towns experience demonstrably different levels of abuse, or its impacts, to women residing in the regional city of Mackay.

METHODS

Sampling

The sample comprised 532 women over the age of 18 years who were living in an intimate, heterosexual, spousal relationship (married or de facto) in the Bowen Basin region of Central Queensland. A strict random sample of women within

the Bowen Basin and surrounding urban areas would have resulted in a heavy bias towards Mackay. To ensure adequate representation of women from inland areas and women whose partners were involved in a diversity of shiftwork and commuting practices the sample was stratified to: first, draw a disproportionate share of women from inland areas; and second, to ensure that at least half the Mackay women were partnered to mineworkers. As no mining is undertaken within Mackay, this would necessarily mean that these men would be involved in long-distance commuting to sites throughout the Basin implying extended absences from their main residence. The sample is not, therefore, representative of the entire Bowen Basin population unless weighted appropriately.

Procedure

Participants were surveyed by telephone in June and July, 2007. Respondents were selected randomly using a computer program containing a list of telephone numbers for the entire region. Duplicate, mobile and business numbers were purged from the random sample, as were nursing homes and collective housing. If interviewers were unsuccessful in establishing contact on their first call, a minimum of five call-back attempts were made before declaring a telephone number as 'no contact'. When women answered the phone they were asked a series of screening questions to determine their eligibility for the study based on age, relationship status, residential location and, for Mackay residents, partner occupation. This achieved an overall cooperation rate (total usable interviews divided by total interviews plus refusals and unusable interviews) of 59%.

A Computer Assisted Telephone Interview system was utilised allowing immediate entry of data to a centralised database. This facilitated collection of a large sample of data in a relatively short period of time while providing privacy and anonymity for participants. This is particularly helpful for the collection of data on highly sensitive topics such as crime victimization (ABS, 2006). Conversely, telephone interviews potentially under-sample individuals who do not have access to a landline telephone, do not speak English and/or do not wish to be interviewed on the telephone.

Ethical concerns regarding safety and emotional trauma were addressed by ensuring that interviewers were trained to: appropriately abort calls when a male answered; ensure that the interviews proceeded only when participants confirmed that they were able to safely respond to questions about domestic violence at that time (or women were given a number to call back if they preferred); advise that some questions would be asked that might be distressing; refer to a domestic violence support service, so that women could access support should they need it; and to check that they could proceed with sensitive questions when that point of the interview was reached. These procedures were reviewed and approved by the Central Queensland University Human Research Ethics Committee (Project Number H06/11-171).

Questionnaire

The interview schedule included validated scales designed to measure physical and non-physical abuse by current partners along with the physical and mental health status of respondents. Additional questions were asked related to the socio-demographic characteristics of women and their partners, and awareness and use of counselling and support services. Physical abuse (an act or a behaviour that could be physically intimidating, could hurt, or actually hurts another person) was measured using the Revised Conflict Tactics Scale (CTS2) (Straus et al., 1996). Women were asked first whether they had experienced each of the acts included in this scale at any time

during their current relationship. If the women answered affirmatively, they were further asked whether this act had occurred during the preceding 12 months. The internal reliability (Cronbach's alpha) of the CTS2 in this research was found to be 0.81 for the ten questions on intimate partner physical abuse.

Non-physical abuse was measured using ten questions from the General Social Survey on Victimization, Canada (Johnson and Bunge, 2001). Non-physical abuse was defined as:

- Economic abuse: acts or behaviours that limit the female partner's access to the family income and resources, and deprive her of spending money in an independent way.
- Psychological abuse: acts or behaviours that could belittle, demoralise or frighten the female partner or make her feel bad.
- Social-psychological abuse: acts/behaviours that limit the social interaction and participation of the female partner.

Questions on non-physical abuse included the frequency of the behaviour in the relationship. Internal reliability (Cronbach's alpha) for these ten questions was 0.833.

The SF-12 Health Survey was used to measure the generic health status of women. The SF-12 is a multipurpose short form instrument with 12 questions designed to measure eight concepts: physical functioning, role limitations due to physical health problems, bodily pain, general health, vitality (energy/fatigue), social functioning, role limitations due to emotional problems, and mental health (psychological distress and psychological wellbeing)(Ware et al., 1996). From these, two summary scores are derived: the Physical Component Summary (PCS); and the Mental Component Summary (MCS)(Ware et al., 2007). The norm-based scoring system used to derive these summaries is designed to generate a mean score of 50 and a standard deviation of 10 in the general US population. Several studies have shown that while developed and validated through US population surveys the SF-12 scale is equally suitable for the Australian population (Andrews, 2002).

Data analysis

Raw data from the CATI system were analysed using The Statistical Package for the Social Sciences (SPSS). The data were subjected to a range of statistical tests including logistic regression analysis. For the majority of analyses reported here, data were weighted to reflect the actual population distribution of women resident in the Bowen Basin and Mackay and the actual number partnered to mine workers. Each weighting was based on the actual percentage of the relevant variable in the target population (according to the 2006 Census) divided by the percentage of the variable in the sample (Table 1). Thus, if a female respondent was a resident of Mackay and partnered to a mine worker her responses were weighted by a factor of 0.60 (i.e. 1.69×0.23) for the purposes of calculating the population-wide prevalence of intimate partner abuse in the Bowen Basin and Mackay region.

Comparisons of 2006 Census data with sample data on age, education, labour force participation, income, country of birth, length of residence, and location within the Bowen Basin showed that aside from the deliberate dimensions of stratification and criteria for inclusion the sample was broadly representative of the female population of the Bowen Basin and Mackay.

Table 1: Sample weighting

Variable	Percentage of stratum in population	Percentage of stratum in sample	Weighting
Women resident in Bowen Basin	43.3	78.4	0.55
Women resident in Mackay	56.7	21.6	2.63
Male mine workers resident in Bowen Basin	25.8	56.1	0.46
Male non-mine workers resident in Bowen Basin	74.2	43.9	1.69
Male mine workers resident in Mackay	11.4	48.7	0.23
Male non-mine workers resident in Mackay	88.6	51.3	1.73

RESULTS

Prevalence of abuse

As Table 2 shows, physical abuse of women by their spousal partner had occurred at some time in 9.2% of current relationships. One point five per cent reported sexual abuse at some time in the relationship. During the previous 12 months, 3.1% had experienced some form of physical abuse and 0.4% had experienced sexual abuse. The most common physically abusive behaviours were 'pushing, grabbing or shoving', and 'threatening to hit'.

At some stage of the current intimate relationship, 29.1% of women had experienced at least one form of non-physical abuse; 20.3% of the women had experienced psychological abuse, 15.3% had experienced social-psychological abuse, and 3.6% had experienced economic abuse (Table 3).

Importantly, no statistically significant association could be established between the residential location of women and any form of abuse by their current partner. Nor were women resident in Mackay any more, or less, likely to experience abuse if partnered to a worker engaged in long-distance commuting to sites within the Bowen Basin.

Table 2: Women's reporting of physical abuse (weighted)(n=532)

Experience of abusive behaviour	Ever during relationship		During the last 12 months	
	Number	%	Number	%
Pushed, grabbed or shoved	29	5.5	7	1.3
Threatened to hit with fist or anything else	25	4.8	11	2.1
Thrown anything that could hurt	21	4.0	8	1.5
Slapped	17	3.2	6	1.1
Kicked, bit or hit with fist	14	2.7	6	1.1
Forced into unwanted sexual activity	8	1.5	2	0.4
Hit with something	7	1.3	6	1.1
Choked or strangled	4	0.8	2	0.3
Beaten	2	0.5	1	0.2
Threatened to use gun, knife or a similar weapon	0	0	0	0.0
Any form of physical abuse	49	9.2	16	3.1

Table 3: Women's reporting of non-physical abuse (weighted)(n=532)

Experience of abusive behaviour	Always or often		Rarely or sometimes	
	Number	%	Number	%
He limits your contact with family or friends	3	0.6	25	4.6
He puts you down or calls you names to make you feel bad	5	1.1	64	12.0
He is jealous and does not want you to talk to other men	6	1.2	43	8.0
He harms or threatens to harm someone close to you	0	0	10	1.9
He demands to know who you were with and where you are at all times	7	1.4	45	8.5
He damages or destroys your possessions or property	0	0	9	1.7
He prevents you from knowing about the family income/having access to family income	1	0.2	6	1.2
He is stingy in giving you enough money to run the home	13	2.3	5	0.9
He demands that you do what he wants	10	2.0	33	6.3
He acts like you are his personal servant	21	3.9	54	10.2

Health status of women affected by abuse

The mean SF-12 PCS and MCS scores for women in the Bowen Basin and Mackay region were 52.49 and 52.16 respectively. These were comparable with results from the 1997 Australian National Survey of Mental Health and Wellbeing (n=10,641) which reported a mean PCS score for women of 48.75 and a mean MCS score of 51.41 (McLennan, 1998). Lower scores equal lower levels of physical and mental wellbeing.

Table 4 shows that some aspects of intimate partner abuse had a small but significant impact on the overall physical health and wellbeing of women at a population level. Specifically, women who reported psychological abuse or any form of non-physical abuse recorded scores on the SF-12 PCS scale that were slightly lower than average for women in the Bowen Basin and Mackay, but close to the expected range and standard deviation for women in Australia. Table 5, by contrast, shows a much more pronounced relationship between almost all forms of intimate partner abuse and women's mental health and wellbeing, as well as greater variability in MCS scores among women reporting abuse.

To place the mean scores of abused women on the MCS in context it is worth comparing them with results from the 1997 Australian National Survey of Mental Health and Wellbeing which examined the relationship between scores on the PCS and MCS scales with direct measures of mental disorder (McLennan, 1998). It found that women with anxiety disorders averaged MCS scores of 46.82, women with affective disorders averaged 44.48, women with substance abuse disorders 48.21, and women with a combination of mental disorders 37.70. While the SF-12 provides measures of general health and wellbeing only, and not of specific diseases, disorders, disabilities and such, it is of some importance to note that abused women in the Bowen Basin and Mackay reported levels of mental wellbeing that were comparable with women from a national sample who also reported symptoms of specific mental disorders. An analysis of the same database undertaken by Gill et al. (2007) found that appropriate cut off scores for the purposes of epidemiological studies were:

- anxiety disorders and other common mental disorders ≤ 50
- depression ≤ 45 , and
- severe psychological symptomatology ≤ 36 .

Table 4: Mean score on Physical Component Summary (PCS) of the SF-12 Health Survey by reported form of abuse (weighted)(n=517)

Type of abuse	Abuse		No abuse		t-value	p-value
	Mean	SD*	Mean	SD		
<i>Physical</i>						
Ever in relationship	51.2	9.1	52.0	8.8	0.563	ns
Last 12 months	54.3	7.6	51.8	8.9	-1.120	ns
Severe	50.8	8.9	51.9	8.8	0.541	ns
Sexual	51.7	9.8	51.9	8.8	0.062	ns
<i>Non-Physical</i>						
Economic	54.3	10.9	51.8	8.7	-1.189	ns
Psychological	50.1	9.2	52.4	8.7	2.357	0.020
Social-psychological	51.9	8.5	51.9	8.9	-0.033	ns
Non-physical	50.1	9.4	52.7	8.5	2.925	0.004

*SD = standard deviation

Table 5: Mean score on Mental Component Summary (MCS) of the SF-12 Health Survey by reported form of abuse (weighted)(n=517)

Type of abuse	Abuse		No abuse		t-value	p-value
	Mean	SD*	Mean	SD		
<i>Physical</i>						
Ever in relationship	45.8	12.8	53.2	7.6	3.932	<0.001
Last 12 months	36.0	15.1	53.1	7.6	4.551	<0.001
Severe	40.8	16.7	53.0	7.8	3.036	0.008
Sexual	45.4	11.1	52.7	8.4	2.418	0.016
<i>Non-Physical</i>						
Economic	41.8	16.9	52.9	7.8	2.818	0.012
Psychological	47.4	12.2	53.9	6.6	5.296	<0.001
Social-psychological	49.6	10.6	53.1	8.0	2.813	0.006
Non-physical	48.6	11.4	54.2	6.3	5.694	<0.001

*SD = standard deviation

Table 6 shows how many of the women reporting abuse fell within each of these categories. It indicates that 50% of women reporting physical abuse within the last 12 months, and over 44% of women reporting severe physical abuse (defined as bodily acts of violence rather than the threat of violence) also displayed evidence of severe psychological symptomatology, as did over 36% of women reporting economic abuse; 20% of women reporting physical abuse at any stage during the current relationship; over 19% of women reporting psychological abuse; over 14% of women reporting sexual abuse; and over 12% of women reporting social-psychological abuse;. By contrast, only 5.4% of women who reported no physical abuse and 2.9% of women who reported no non-physical abuse had MCS scores of ≤ 36 .

Table 7 utilises logistic regression to show more clearly how much the experience of abuse by their current intimate partner increases women's chances of also providing answers on the SF-12 instrument indicative of potential mental health issues. It shows that women who reported recent physical abuse were particularly vulnerable with a fivefold increase in the likelihood that they would also report symptoms of depression and a sixteenfold increase in the likelihood they would report severe psychological symptomatology. Women's likelihood of reporting

negative mental health symptoms increased by a factor of two to sixteen across all forms of intimate partner abuse.

Help seeking among women who experienced abuse

Women participating in the study were asked if they were aware of any support or counselling services available in their locality; and if they had ever sought assistance from any such services. Among the 61 women who had experienced physical abuse from their current partner, 63.9% were aware of counselling/support services, but only 26.2% had sought assistance from one of these services. Similarly, of the 167 women who had experienced non-physical abuse, 64.7% were aware of support services in their locality but only 22.8% had sought help.

Women who had been physically abused were slightly more likely to seek help from these services than were women suffering non-physical abuse. A number of women (21) who did not report intimate partner abuse reported that they had sought counselling or support from a service within their locality; presumably not one of the two Regional Domestic Violence Support Services but one of the range of mainstream services operating in the region such as Centacare, Relationships Australia, Lifeline and others.

Table 6: Reporting of abuse by the Mental Component Summary (MCS) of the SF-12 Health Survey in categories as defined by Gill, et al (2007)(weighted)(n=531)

Type of Abuse	MCS ≤ 36		MCS > 36 and ≤ 45		MCS > 45 and ≤ 50		MCS > 50		Chi square	p-value
	n	%	n	%	n	%	n	%		
<i>Physical</i>										
Ever in relationship	10	20.8	4	8.3	3	6.3	31	64.6	17.123	0.001
Last 12 months	8	50.0	2	12.5	1	6.3	5	31.3	49.259	<0.001
Severe	8	44.4	1	5.6	1	5.6	8	44.4	40.435	<0.001
Sexual	1	14.3	2	28.6	1	14.3	3	42.9	6.718	ns
<i>Non-physical</i>										
Economic	7	36.8	1	5.3	0	0.0	11	57.9	28.189	<0.001
Psychological	21	19.6	15	14.0	11	10.3	60	56.1	50.221	<0.001
Social-psychological	10	12.5	11	13.8	6	7.5	53	66.3	13.000	0.005
Non-physical	26	16.8	18	11.6	13	8.4	98	63.2	42.488	<0.001

Table 7: Reporting of abuse by evidence of depression (MCS* > 36 and ≤ 45) and severe psychological symptomatology (MCS ≤ 36)(weighted)

	n	Depression (n=39)			Severe Psychological Symptomatology (n=37)		
		Odds Ratio	95% Confidence Interval	p-value	Odds Ratio	95% Confidence Interval	p-value
Physical abuse	61	1.8	(0.7, 5.0)	ns	4.6	(2.1, 10.2)	<0.001
Physical abuse during past 12 months	22	5.0	(1.1, 22.0)	0.036	16.1	(5.7, 45.7)	<0.001
Severe abuse	18	3.1	(0.7, 14.3)	ns	12.9	(4.7, 35.6)	<0.001
Sexual abuse	13	6.5	(1.3, 32.6)	0.023	2.4	(0.3, 17.03)	ns
Economic abuse	20	1.0	(0.1, 8.0)	ns	8.5	(3.1, 23.4)	<0.001
Psychological abuse	116	3.9	(2.0, 7.8)	<0.001	6.7	(3.3, 13.5)	<0.001
Social-psychological abuse	10	3.2	(1.6, 6.7)	0.001	2.4	(1.1, 5.1)	0.024

*MCS = Mental Component Summary (MCS) of the SF-12 Health Survey

DISCUSSION

This study of the abuse of women by their intimate male partners in the Bowen Basin and Mackay region has found evidence of physical abuse at similar levels to those found nationally (Mouzos and Makkai, 2004). Specifically, 9.2% of women in the Bowen Basin study reported experience of physical abuse at some point in their current relationship, compared with 10% of women in an Australian study employing similar methodology. Further, just over 3% of women in the Bowen Basin study reported they had been physically abused by their intimate male partner in the previous 12 months, compared to 3% of women in the Australian study. The most substantial difference in the prevalence of intimate abuse in the Bowen Basin study, compared to the national study, was the prevalence of any form of non-physical abuse over the lifetime of the current relationship. This was reported by between 37% and 40% of women in the Australian study, and by just over 29% of the women in the Bowen Basin study.

The Bowen Basin and Mackay study found no evidence that women in rural and remote locations throughout the study area experienced higher levels of physical or non-physical abuse. Neither did it find that women partnered to men who commuted from urban to rural and remote locations experienced higher levels of abuse, or that the reporting of abuse was correlated, at the population level, with diminished physical health and well-being. At face value, this appears to contradict the findings that domestic violence was a major contributor to the disease burden on women. Mean scores on the PCS scale for women reporting abuse in this study were so close to the mean scores for women not reporting abuse that this is unlikely to be a function of sample size. Keeping in mind that the sampling frame for the current study was restricted to women living in a spousal relationship at the time of the study, it is possible that many women suffering physical illness and disability as a direct consequence of abuse were excluded.

By contrast, the Bowen Basin and Mackay study found strong correlations between the reporting of intimate partner abuse and negative mental health indicators. It is not possible, of course, on the basis of the data reported here to draw firm conclusions about the causal nature of relationships between abuse and poor mental health. It is possible that negative outcomes are a consequence of abuse; that poor mental health is a risk factor for abuse; and that the two interact and reinforce each other through a vicious cycle. Not surprisingly, the likelihood of experiencing negative mental health was much greater where there was recent physical abuse. In these cases, severe psychological symptomatology was 16.1 times more likely, and symptoms of depression were 5.0 times more likely. However, women reporting economic abuse were also 8.5 times more likely to have severe psychological symptomatology. Women reporting psychological abuse were 6.7 times more likely to have severe psychological symptomatology, and 3.9 times more likely to have symptoms of depression; and women reporting social-psychological abuse were 2.4 times more likely to have severe psychological symptomatology, and 3.2 times more likely to have symptoms of depression. This is consistent with other recent research finding significant links between emotional and verbal abuse and depression (Mechanic et al., 2008).

The study also found a reluctance to seek counselling and support services. While there are two Regional Domestic

Violence Services in the Bowen Basin region, a substantial percentage of women (19.6%) who reported experiences of violence in the study said that they did not feel the abuse was serious enough for them to seek help.

CONCLUSION

While the prevalence of male-to-female intimate partner abuse in the Bowen Basin and Mackay region does not vary markedly from national prevalence rates, these results have a number of implications for human service and health professionals in the region. Specifically, professions and support agencies should anticipate the likelihood that depression and severe psychological symptomatology present in female clients may be associated with intimate partner violence. Such professionals require knowledge and skills to recognise and respond to intimate partner violence in order to avoid situations where symptoms are treated but abuse goes undetected. Findings regarding women's limited use of counselling and support services in the Bowen Basin and Mackay highlight the importance of human service professionals more broadly in recognising and responding to intimate partner violence. An effective response from mainstream agencies, generally, is critical in regional areas characterised by limited specialist domestic and family violence prevention services, substantial travelling times for women seeking to utilise those services, and the difficulty that specialist services often experience in recruiting and retaining suitably qualified staff. While the study demonstrates the harmful effects of experiencing abuse, less than half of the women who had been abused and were aware of counselling or support services in their locality sought help from those services.

ACKNOWLEDGEMENTS

This study was supported financially by the Australian Criminology Research Council. The Queensland Centre for Domestic and Family Violence Research receives defined term funding from the Queensland Government, Department of Communities.

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