WORKFORCE

CSIRO PUBLISHING

Australian Health Review, 2012, 36, 184–190
http://dx.doi.org/10.1071/AH11043

Feature

Workplace abuse among correctional health professionals in New South Wales, Australia

Aaron W. Cashmore[1,7] BSc, MPH (with Distinctions), Public Health Officer Trainee

Devon Indig[2,3] BSc, MPH, PhD, Head of Research (Criminal Justice)

Stephen E. Hampton[4] MBBS, MPH, FRACGP, Executive Medical Director

Desley G. Hegney[5] RN, BA(Hons), PhD, Professor of Nursing

Bin Jalaludin[6] MBBS, PhD, MRCP, FAFPHM, Director

[1]NSW Public Health Officer Training Program, New South Wales Ministry of Health, Level 7, 73 Miller Street, North Sydney, NSW 2059, Australia.
[2]Centre for Health Research in Criminal Justice, Justice Health (NSW) Suite 302, Level 2, 152 Bunnerong Road, Pagewood, NSW 2035, Australia.
[3]School of Public Health and Community Medicine, University of New South Wales Sydney, NSW 2052, Australia. Email: Devon.Indig@justicehealth.nsw.gov.au
[4]Justice Health (NSW), 1300 Anzac Parade, Malabar, NSW 2036, Australia. Email: Stephen.Hampton@justicehealth.nsw.gov.au
[5]Curtin Health Innovation Research Institute, Curtin University, Level 2, Building 400, Kent St, Bentley, WA 6102, Australia. Email: desley.g.hegney@gmail.com
[6]Centre for Research, Evidence Management and Surveillance (REMS), Locked Bag 7017, Liverpool, NSW 1871, Australia. Email: Bin.Jalaludin@sswahs.nsw.gov.au
[7]Corresponding author. Email: acash@doh.health.nsw.gov.au; aaron.cashmore@gmail.com

Abstract

Objective. Studies have found that health workers are at elevated risk of being abused while at work. Little is known, however, about workplace abuse among correctional health professionals. We implemented a cross-sectional study to investigate the prevalence, sources and consequences of workplace abuse among correctional health professionals in New South Wales, Australia.

Methods. All employees of Justice Health (a statutory health corporation) were invited to complete a self-administered survey, which was delivered via the internet. Among nurses, medical doctors and allied health professionals, 299 usable surveys were returned; a response rate of 42%.

Results. In the preceding 3 months, 76% of participants had personally experienced some form of abuse in their workplace, all but one of whom recalled verbal abuse. Only 16% reported physical abuse. Seventy per cent reported feeling safe in their workplace. Patients were identified as the main perpetrators of abuse, followed by fellow health staff. Participants felt that incidents of workplace abuse increased their potential to make errors while providing care to patients and reduced their productivity while at work.

Conclusions. Compared with health workers who practise in a community setting, the risk of physical abuse among correctional health professionals appears to be low.

What is known about the topic? Health professionals are at a high risk of workplace abuse. Studies have demonstrated that the risk of abuse varies by health profession and the practice environment. There is a paucity of research exploring workplace abuse among correctional health professionals.

What does this paper add? A cross-sectional survey found that a relatively small proportion of correctional health professionals in New South Wales had been subjected to physical abuse in their workplace in the preceding 3 months. Verbal abuse, however, was reported by a majority of participants. Although patients were the most commonly reported source of abuse, a worrying level of health worker on health worker abuse (also known as horizontal abuse) was found.

What are the implications for practitioners? Preventive strategies should address the temporal, environmental and structural determinants of workplace abuse in correctional and forensic facilities. More research is needed to identify the

factors associated with horizontal abuse among correctional health professionals. This would allow the establishment of tailored preventive programs.

Received 6 May 2011, accepted 12 October 2011, published online 25 May 2012

Introduction

Health professionals have a right to practise in a safe workplace, a workplace in which the risk of abuse – including physical, sexual, emotional and verbal abuse – is negligible.[1–4] Unfortunately, however, workplace abuse directed at front line health professionals is a common problem in several countries,[5–11] including Australia.[12–20] A recent systematic review of studies of the prevalence of patient-initiated abuse perpetrated against Australian general practitioners found 12 month period prevalence ratios ranging from 48 to 64%.[15] Similarly, a large study of nurses who were practising in Tasmania found a 1 month period prevalence of 64%.[13]

In healthcare settings, incidents of workplace abuse may be perpetrated by patients, the visitors of patients, professional colleagues or non-professional staff. The negative impacts of such incidents are significant and wide ranging. In individual health professionals, exposure can lead to physical injury, anger, fear, sadness, helplessness, stress, anxiety, a loss of self-confidence and, in extreme cases, post-traumatic stress disorder and/or suicidal ideation,[14,16,19,21–25] all of which can place strain on relationships with work colleagues, family members and friends.[21,24,25] At the health facility level, workplace abuse has been linked to employee absenteeism, low workplace morale, staff turnover, reduced empathy for patients, reduced productivity at work, and increased risk of errors in the delivery of care,[12,13,16,19,21,23–25] all of which can undermine the quality of the delivery of health services.[12,19,21,24,25]In addition, the direct and indirect financial costs of workplace abuse, incurred by individuals, health organisations and the broader community, are substantial.[26]

The risk of workplace abuse appears to vary by health profession. Winstanley and Whittington[7] surveyed staff of a UK general hospital and found that a higher proportion of middle grade nurses (34%) than doctors (12%) were subjected to frequent verbal abuse while at work. Similarly, a recent Australian study found that, compared with general practitioners and allied health personnel, nurses were more susceptible to workplace abuse.[19] The risk also varies according to the practice environment. For example, Farrell *et al*.[13] found that nurses who practised in a hospital emergency department were about seven times more likely to be physically assaulted than nurses who worked in a medical general practice. Although studies have explored the magnitude of workplace abuse in a broad range of healthcare settings and among a range of health professions, little is known about the risk of abuse to nurses, doctors and other health professionals who deliver healthcare to inmates.

Many of the individual and social determinants of violence, such as impulsivity, mental illness, drug and alcohol abuse and a personal history of trauma, are disproportionately common in inmate populations.[27–29] The predisposition of some inmates to violence, coupled with the complex and often oppositional nature of the relationship between inmates and correctional staff, place correctional officers at a high risk of being abused while at work.[30–32]A few studies have explored workplace abuse among mental health professionals who were practising in forensic facilities.[30,33] It is not clear, however, whether the high risk of inmate initiated abuse among correctional officers is similarly high in correctional health professionals.

We conducted a cross-sectional, self-administered survey of workplace abuse among employees of Justice Health, a statutory health corporation established to facilitate the provision of healthcare to people who come into contact with the criminal justice system in New South Wales (NSW). The aims were to investigate the prevalence, sources and consequences of workplace abuse among staff, and to identify demographic and employment factors associated with incidents of abuse. This report describes findings among Justice Health staff who were employed as a health professional (including medical doctors, nurses and allied health professionals). Data describing workplace abuse among non-health staff are not presented here because a majority of these participants did not have direct contact with inmates.

Methods

In April 2010, all employees of Justice Health were invited via an email from the Chief Executive to complete a self-administered survey of workplace abuse. Of those who were invited to participate in the research, 710 were employed as a health professional: 590 nurses; 85 medical doctors; and 35 allied health professionals. The survey was delivered via the internet (http://www.surveymonkey.com). Because a small proportion of Justice Health employees do not have access to the internet while at work, the survey was also made available on the Justice Health intranet site for completion as a paper-based survey. Participants were instructed to return the paper-based surveys to the Centre for Health Research in Criminal Justice via the internal mail system. Following the initial invitation to participate in the study, several strategies were used to maximise the response rate, including, for example, reminder emails sent by the Centre for Health Research in Criminal Justice.

The survey included questions relating to participants' experiences of workplace abuse (including both verbal and physical abuse) during a recall period of 3 months. A definition of workplace abuse developed by Farrell *et al*.[13] was included in the survey to provide participants with a common definition on which to base their responses. The definition describes a range of forms of workplace abuse, including physical, sexual, verbal and emotional. However, these are grouped into two categories: physical abuse and verbal abuse (Box 1). Participants who had experienced abuse were asked about the specific types experienced and the perpetrators of the incidents. They were also asked to assess the impact of such experiences on their professional practice and, in the case of clinical staff, their

Box 1. Definition of workplace abuse used in the current study

Verbal abuse is defined as a form of mistreatment, spoken or unspoken that leaves you feeling personally or professionally attacked, devalued or humiliated. It is communication – including sexual inference or innuendo – through words, tone or manner that disparages, patronises, threatens, accuses, or is disrespectful towards another. Please note that we are referring to behaviour that includes the suggestion of physical violence via verbal interaction, in person or over the telephone, as well as physical postures that suggest an object or fist might be thrown. However, no physical contact eventuates. An instance where you are deliberately professionally isolated would be considered a form of abuse (e.g. if your manager regularly ignores your emails or often does not return your phone calls).

Physical abuse is defined as any incident where a person experiences physical assault (e.g. being spat on, bitten, pushed, scratched or hit and so on) or sexual assault (defined as any forced physical sexual contact including forcible touching and fondling, any forced sexual acts including sexual intercourse).

intention to continue practising in the corrections environment. Demographic and employment data were also collected.

To maximise the validity of the information collected and to ensure results could be compared with previous research, the survey instrument included several questions that had been used in similar cross-sectional, survey research undertaken in Queensland[14] and Tasmania.[13] The survey instrument was pilot tested and then modified to expand the definition of workplace abuse and remove several demographic questions.

Data were analysed using SAS 9.2 (SAS Institute Inc., Cary, NC, USA). Descriptive statistics were calculated to describe and summarise survey responses. The Chi-square test was used to explore associations among categorical variables. A *P*-value of <0.05 was considered statistically significant. The study was approved by the Justice Health Human Research Ethics Committee.

Results

A total of 320 medical, nursing and allied health staff completed a survey. We excluded 21 of these because no information was provided about workplace abuse experienced during the recall period, leaving 299 usable surveys; a response rate of 42%.

Demographic and employment characteristics of participants

As shown in Table 1, 72% of participants were women and 67% were 40 years of age or older. Few (6%) spoke a language other than English in the home they grew up in.

A majority (84%) of participants were nurses or nurse managers (Table 1). There was a significant association between sex and profession. A higher proportion of women (88%) than men (74%) worked as a nurse, and, conversely, a higher proportion of men (20%) than women (4%) were employed as a medical doctor. Sixty one per cent of participants worked in an adult correctional centre and 85% were permanent employees. A little more than two-thirds (71%) had worked for 10 years or more as a health practitioner. On the other hand, participants' experience working in the corrections environment was limited (23% had worked for 10 years or more in a corrections environment).

Period prevalence of workplace abuse

In the preceding 3 months, 76% of participants had personally experienced some form of abuse in their workplace, all but one of whom recalled verbal abuse. Only 16% reported physical abuse.

Types of abuse experienced

Figure 1 illustrates that being glared at (80%), yelled at or shouted at (76%), and sworn at (74%) were the most commonly reported types of abuse. A significantly higher proportion of men (19%) than women (6%) reported being hit, kicked, grabbed, shoved or pushed. Similarly, a significantly higher proportion of men (33%) than women (19%) reported that they had been threatened with physical abuse.

Staff perceptions of safety in relation to workplace abuse

Participants were asked to rate the safety of their workplace in relation to workplace abuse (using the Likert scale: very safe; safe; unsafe; very unsafe). Seventy per cent reported feeling 'very safe' or 'safe' in their workplace.

Sources of workplace abuse

As highlighted in Fig. 2, of those who reported physical abuse during the recall period, 94% recalled at least one incident of physical abuse where a patient was the perpetrator. Similarly, of those who reported verbal abuse, most (79%) identified a patient as the aggressor in at least one incident of verbal abuse.

Almost half (48%) of those who had been subjected to verbal and/or physical abuse reported that a health worker colleague perpetrated at least one incident (Fig. 2). There was no difference among nurses, medical doctors and allied health staff in their experiences of abuse perpetrated by a health worker colleague.

Impacts of workplace abuse on professional practice and staff retention

Among participants who had experienced verbal abuse in the previous 3 months, 58% felt that when faced with this form of abuse, their handling of the situation was usually 'very good' or 'good'. Most (85%) of these participants felt that verbal abuse either 'frequently' or 'sometimes' decreased their productivity at work, and a similarly high proportion (79%) felt that verbal abuse 'frequently' or 'occasionally' increased their potential to make mistakes while at work.

Among participants who had experienced physical abuse in the previous 3 months, 52% felt that when faced with this form of abuse, their handling of the situation was usually 'very good' or 'good'. All of these participants felt that physical abuse decreased their productivity at work, and 92% felt that physical abuse increased their potential to make mistakes while at work.

Table 1. Demographic and employment characteristics of participants

	Women ($n = 216$) *n* (%)	Men ($n = 82$) *n* (%)	Total ($n = 299$) *n* (%)	P (X^2, d.f.)
Age				
<29 years	26 (12.09)	7 (8.64)	33 (11.15)	0.833 (1.466, 4)
30–39 years	47 (21.86)	19 (23.46)	66 (22.30)	
40–49 years	58 (26.98)	20 (24.69)	78 (26.35)	
50–59 years	68 (31.63)	30 (37.04)	98 (33.11)	
60 + years	16 (7.44)	5 (6.17)	21 (7.09)	
Language other than English				
Yes	10 (4.76)	8 (9.76)	18 (6.16)	0.111 (2.543, 1)
No, English only	200 (95.24)	74 (90.24)	274 (93.84)	
Position				
Nurse	153 (70.83)	48 (58.54)	201 (67.45)	<0.001 (18.425, 3)
Nurse manager	36 (16.67)	13 (15.85)	49 (16.44)	
Medical doctor	9 (4.17)	16 (19.51)	25 (8.39)	
Allied health professional	18 (8.33)	5 (6.10)	23 (7.72)	
Workplace location				
Administration building	7 (3.52)	4 (5.19)	11 (3.99)	0.164 (6.513, 4)
Prison or forensic hospital	32 (16.08)	22 (28.57)	54 (19.57)	
Adult correctional centre	128 (64.32)	40 (51.95)	168 (60.87)	
Juvenile justice centre	15 (7.54)	6 (7.79)	21 (7.61)	
Other	17 (8.54)	5 (6.49)	22 (7.97)	
Employment status				
Permanent full-time	124 (58.22)	56 (68.29)	180 (61.02)	0.022 (11.404, 4)
Permanent part-time	62 (29.11)	10 (12.20)	72 (24.41)	
Temporary contract full-time	11 (5.16)	5 (6.10)	16 (5.42)	
Temporary contract part-time	1 (0.47)	2 (2.44)	3 (1.02)	
Casual/visiting medical officer	15 (7.04)	9 (10.98)	24 (8.14)	
Years of clinical experience				
<10 years	60 (27.91)	26 (32.10)	86 (29.05)	0.479 (0.502, 1)
10 years or more	155 (72.09)	55 (67.90)	210 (70.95)	
Experience working in a corrections facility				
<10 years	163 (76.17)	64 (78.05)	227 (76.69)	0.732 (0.117, 1)
10 years or more	51 (23.83)	18 (21.95)	69 (23.31)	

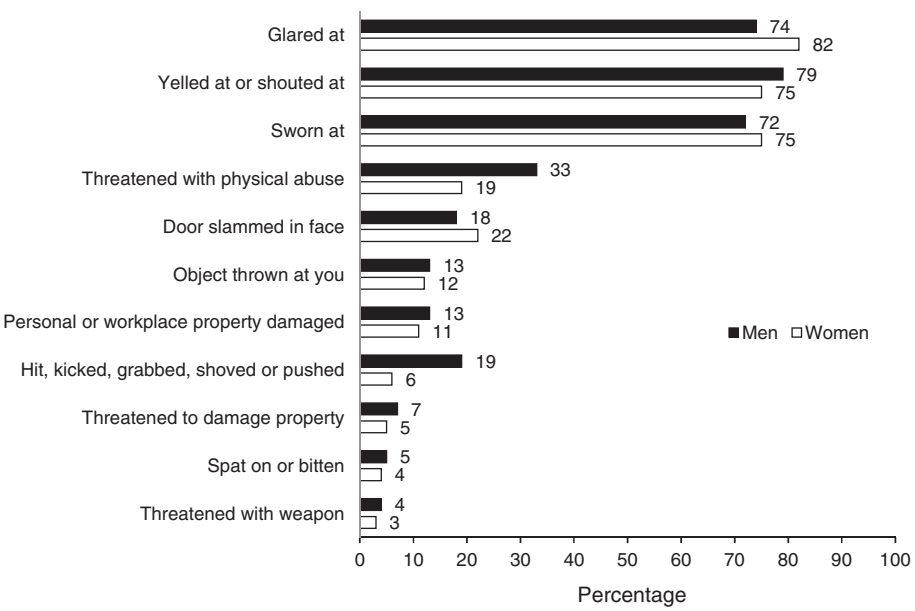

Fig. 1. Types of abuse experienced among those who reported some form of abuse.

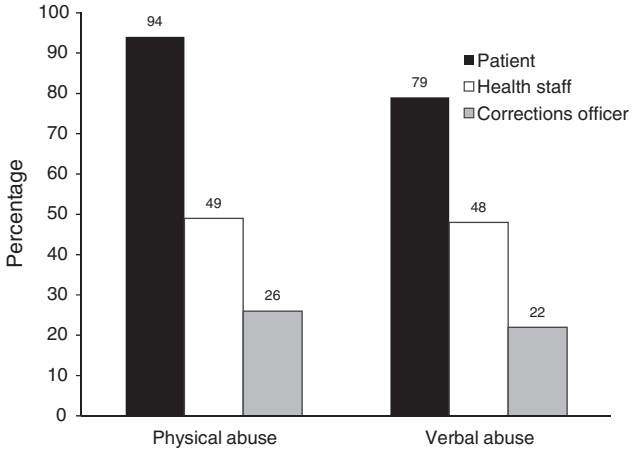

Fig. 2. Sources of workplace abuse (if any).

Fifty per cent of those who had personally experienced abuse in their workplace during the recall period reported that they had thought about quitting their current job because of those experiences.

Factors associated with workplace abuse

Table 2 highlights that a significantly higher proportion of women than men (80% *v.* 66%, $X^2 = 6.156$, d.f. = 1, $P = 0.013$) reported that they had been subjected to verbal abuse during the recall period. No difference was found between women and men in their experiences of physical abuse.

A significantly higher proportion of participants who worked in a forensic or prison hospital than those who worked in a correctional centre (28% *v.* 14%, $X^2 = 5.975$, d.f. = 1, $P = 0.015$) reported physical abuse during the recall period (Table 2).

Table 2. Factors associated with workplace abuse

	Physical abuse %	Verbal abuse %
Sex		
Men ($n = 82$)	17.07	65.85
Women ($n = 216$)	15.74	79.63*
Age		
<40 years ($n = 99$)	16.16	74.75
40 years or more ($n = 198$)	15.66	76.26
Language other than English		
Yes ($n = 18$)	11.11	66.67
No, English only ($n = 275$)	16.73	76.73
Position		
Nurse ($n = 251$)	17.53	77.69
Medical doctor/allied health ($n = 48$)	8.33	66.67
Workplace location		
Prison hospital or forensic hospital ($n = 54$)	27.78*	77.78
Correctional centre (adult or juvenile) ($n = 190$)	13.68	78.95
Employment status		
Full-time ($n = 197$)	18.78	78.68
Part-time ($n = 99$)	10.10	69.70
Permanency of employment		
Permanent ($n = 252$)	16.27	77.78
Temporary ($n = 43$)	13.95	65.12
Years of clinical experience		
<10 years ($n = 86$)	22.09	76.74
10 years or more ($n = 211$)	13.74	75.36
Experience working in corrections environment		
<10 years ($n = 228$)	17.98	76.75
10 years or more ($n = 69$)	8.70	73.91

*P value <0.05

Discussion

Although verbal abuse was reported by a majority of participants, a much smaller proportion reported physical abuse. Seventy per cent felt safe in their workplace. Patients were identified as the main perpetrators of workplace abuse, followed by fellow health staff. Participants felt that incidents of abuse increased their potential to make errors while providing care to patients and reduced their productivity while at work. About half of those who had experienced workplace abuse during the recall period reported that the incident(s) had prompted them to think about quitting their position. Sex was significantly associated with verbal abuse, and the practice environment was significantly associated with physical abuse.

Comparison of results of cross-sectional studies of workplace abuse is challenging due to factors such as inconsistencies in the way investigators conceptualise the phenomenon and variation in the recall periods used. We attempted to overcome these challenges by adopting a similar design to two large Australian studies: Hegney and colleagues' cross-sectional survey of nurses who were practising in a range of healthcare settings in Queensland[14] and Farrell and colleagues' study of workplace abuse among nurses in Tasmania.[13] Comparison of our results with the results of these studies is appropriate because a majority (67%) of Justice Health employees are nurses.

Our finding that 76% of participants had experienced some form of workplace abuse exceeds the 46% prevalence found in the study by Hegney *et al.*[14] which also used a 3 month recall period. It is important to note, however, that the two studies differed in that our survey instrument included a comprehensive definition of workplace abuse, which may have captured a greater range of incidents. In fact, the definition included in our survey instrument was very similar to the definition used in the study by Farrell *et al.*[13] which found a 1 month period prevalence of 64%, a proportion more in step with our finding. The prevalence of workplace abuse among Justice Health staff who worked in a correctional or forensic facility but not as a health professional (i.e. non-health staff) was 33% (data not shown), which was much lower than the prevalence found in health professional staff (76%).

Sixteen per cent of participants in our study had experienced physical abuse during the recall period. Although unacceptably high, this proportion is lower than the proportions reported by Roche *et al.* (50%)[12] and Farrell *et al.* (30%, and even higher among aged care (49%) and emergency department (58%) nurses).[13] The results of our study suggest that the risk of physical abuse is lower among correctional health professionals than it is among health workers who practise in a community setting – the risk appears to be especially low when compared with those who

work in unpredictable hospital wards, such as emergency departments.

Several factors might explain the relatively low occurrence of physical abuse found in our study. Here we focus on factors that might reduce the risk of inmate initiated physical abuse. First, in NSW, in gaol health clinics, correctional officers are present to monitor inmates while they receive medical treatment from a correctional health professional. The presence of correctional officers, coupled with the risk of incurring further punishment should they harm a health worker, may dissuade some inmates from being physically abusive. Second, supplementary security measures, such as the mandatory use of duress alarms by Justice Health staff and omnipresent video surveillance of inmates, may discourage violent behaviours. Third, the screening and ongoing monitoring of inmates to identify and manage those who may become physically violent may be done effectively by Justice Health employees and correctional staff in NSW. Finally, it is possible that a high proportion of inmates are aware that Justice Health is an independent statutory health corporation and therefore do not see its employees as being aligned with correctional officers – correctional officers are at a very high risk of physical abuse in the workplace.[30–32]

Our finding that verbal abuse was more commonly reported than physical abuse is consistent with previous studies.[9–11,13,15,17] The prevalence of verbal abuse found in our study (76%) is greater than that found by Farrell *et al*. (63%).[13] Although a recent study found that verbal abuse was less damaging than physical abuse in terms of the effect it has on the quality of patient care,[12] the available evidence unequivocally demonstrates the negative impacts of verbal abuse and bullying in the workplace on both the quality of the delivery of health services and the health and wellbeing of victims.[12–14,16,19,21–25] Instances of inmate initiated verbal abuse may be fuelled, in part, by environmental and structural factors, such as gaol crowding and a lack of relevant vocational programs for inmates.[30] Implementation of strategies that address such factors may be effective in reducing incidents of verbal abuse perpetrated against correctional health professionals, and may also reduce the already relatively low risk of physical abuse.

Health worker on health worker abuse (also known as horizontal abuse) is recognised as a common and often insidious phenomenon.[23,25,34] Among participants in our study who reported workplace abuse, just under half (48%) were abused at least once by a fellow Justice Health employee. This proportion is greater than that found in a recent study of Australian nurses (20%)[12] and similar to the 50% found in a survey of allied and primary health professionals who were practising in NSW[34] – the latter study used a 12 month recall period. Still, regardless of how the prevalence of horizontal abuse found in our study compares with previous research, the high level uncovered is a cause for concern. In the future, research might explore the unique determinants of horizontal abuse among correctional health professionals. This would allow the development and implementation of tailored preventive interventions.

At the time the current study was implemented, in response to the findings of a 'Staff Climate Survey', the Justice Health Executive had initiated a 'Culture Improvement Project', which involved liaising with staff in order to understand and address a range of issues relating to workplace wellbeing, including workplace bullying and harassment. This project and the preceding 'Staff Climate Survey' may have produced a heightened awareness of horizontal abuse among medical, nursing and allied health staff who participated in our study.

A majority of participants in our study who had experienced some form of workplace abuse during the recall period reported that such incidents reduced their productivity while at work and increased the potential for them to make errors while providing healthcare to inmates. Such impediments to the delivery of high quality healthcare are problematic because inmates have a right to a standard of care that is comparable to that available in the general community,[35] particularly as many inmates enter gaol with pre-existing, often complex health problems.[27–29] Incarceration provides an opportunity to address these health problems before inmates are returned to the community.

Sex and the practice environment were significantly associated with workplace abuse. Heightened security within gaol health clinics might explain, in part, our finding that physical abuse was less common among participants who worked in a gaol health clinic than among those who worked in a forensic or prison hospital. Our finding that women were more likely than men to be verbally abused might be explained by the fact that a higher proportion of women than men worked as a nurse, and nurses were more likely than other professions to be subjected to verbal abuse. Further research is needed to identify high risk sub-groups among correctional health professionals.

There are two potential limitations of this study. First, a unique identifier was not used during implementation of the survey, and, although unlikely, it was therefore possible for a participant to complete more than one survey. During the process of cleaning the data, completed surveys were checked for duplicate entries and none were found. After consulting several experienced Justice Health clinicians and senior nurses about the study design, we decided against using a unique identifier because the feedback we received was that such a mechanism would have dissuaded some staff from completing a survey. Second, a 42% response rate, although quite typical of research using the methods we adopted,[13,14] introduces the potential of non-response bias in the findings.

Conclusions

Although the prevalence of physical abuse found in our study is unacceptably high, it is lower than proportions found in comparable studies of workplace abuse among health workers who practise in a community setting. On the other hand, verbal abuse and horizontal abuse appear to be relatively common in the corrections environment. In the future, research might attempt to identify the unique individual, environmental and systemic predictors of workplace abuse among correctional health professionals. This would allow the development and implementation of tailored preventive interventions.

Competing interests

The authors declare there are no competing interests.

Acknowledgements

Aaron Cashmore was employed as part of the NSW Public Health Officer Training Program funded by the NSW Ministry of Health. He undertook this work while based at the Justice Health Centre for Health Research in Criminal Justice. The program is offered in partnership with the University of New South Wales. The authors would like to thank the Justice Health Executive for supporting the implementation of the study. Thank you to Dr Martin McNamara for his guidance during all phases of the project. Thank you also to those Justice Health employees who took the time to complete a survey.

References

1 International Council of Nurses. Position statement: abuse and violence against nursing personnel. Geneva: International Council of Nurses; 2006. Available at http://www.icn.ch/images/stories/documents/publications/position_statements/C01_Abuse_Violence_Nsg_Personnel.pdf [verified 22 February 2011].

2 Australian Nursing Federation. Zero tolerance of violence and aggression in the workplace. Australian Nursing Federation; 2008. Available at http://www.anf.org.au/pdf/policies/P_Zero_tolerance_violence_aggression.pdf [verified 22 February 2011].

3 Australian Medical Association. Position statement: personal safety and privacy for doctors. Australian Medical Association; 2005. Available at http://ama.com.au/node/2182 [verified 22 February 2011].

4 New South Wales Department of Health. Zero tolerance response to violence in the NSW Health workplace. Sydney: New South Wales Department of Health; 2005. Available at http://www.health.nsw.gov.au/policies/PD/2005/pdf/PD2005_315.pdf [verified 22 February 2011].

5 Hesketh KL, Duncan SM, Estabrooks CA, Reimer MA, Giovannetti P, Hyndman K, *et al*. Workplace violence in Alberta and British Columbia hospitals. *Health Policy* 2003; 63(3): 311–21. doi:10.1016/S0168-8510(02)00142-2

6 Estryn-Behar M, van der Heijden B, Camerino D, Fry C, Le Nezet O, Conway PM, *et al*. Violence risks in nursing–results from the European 'NEXT' Study. *Occup Med* 2008; 58(2): 107–14. doi:10.1093/occmed/kqm142

7 Winstanley S, Whittington R. Aggression towards health care staff in a UK general hospital: variation among professions and departments. *J Clin Nurs* 2004; 13(1): 3–10. doi:10.1111/j.1365-2702.2004.00807.x

8 Çelik SS, Celik Y, Agirbas I, Ugurluoglu O. Verbal and physical abuse against nurses in Turkey. *Int Nurs Rev* 2007; 54(4): 359–66. doi:10.1111/j.1466-7657.2007.00548.x

9 Chen W-C, Hwu H-G, Kung S-M, Chiu H-J, Wang J-D. Prevalence and determinants of workplace violence of health care workers in a psychiatric hospital in Taiwan. *J Occup Health* 2008; 50(3): 288–93. doi:10.1539/joh.L7132

10 El-Gilany A-H, El-Wehady A, Amr M. Violence against primary health care workers in Al-Hassa, Saudi Arabia. *J Interpers Violence* 2010; 25(4): 716–34. doi:10.1177/0886260509334395

11 Kamchuchat C, Chongsuvivatwong V, Oncheunjit S, Yip TW, Sangthong R. Workplace violence directed at nursing staff at a general hospital in southern Thailand. *J Occup Health* 2008; 50(2): 201–7. doi:10.1539/joh.O7001

12 Roche M, Diers D, Duffield C, Catling-Paull C. Violence toward nurses, the work environment, and patient outcomes. *J Nurs Scholarsh* 2010; 42(1): 13–22. doi:10.1111/j.1547-5069.2009.01321.x

13 Farrell GA, Bobrowski C, Bobrowski P. Scoping workplace aggression in nursing: findings from an Australian study. *J Adv Nurs* 2006; 55(6): 778–87. doi:10.1111/j.1365-2648.2006.03956.x

14 Hegney D, Tuckett A, Parker D, Eley RM. Workplace violence: differences in perceptions of nursing work between those exposed and those not exposed: a cross-sector analysis. *Int J Nurs Pract* 2010; 16(2): 188–202. doi:10.1111/j.1440-172X.2010.01829.x

15 Forrest L, Parker R, Hegarty K, Tuschke H. Patient initiated aggression and violence in Australian general practice. *Aust Fam Physician* 2010; 39(5): 323–6.

16 McKinnon B, Cross W. Occupational violence and assault in mental health nursing: a scoping project for a Victorian Mental Health Service. *Int J Ment Health Nurs* 2008; 17(1): 9–17. doi:10.1111/j.1447-0349.2007.00499.x

17 Boyle M, Koritsas S, Coles J, Stanley J. A pilot study of workplace violence towards paramedics. *Emerg Med J* 2007; 24(11): 760–3. doi:10.1136/emj.2007.046789

18 Lyneham J. Violence in New South Wales emergency departments. *Aust J Adv Nurs.* 2000; 18(2): 8–17.

19 Alexander C, Fraser J. Occupational violence in an Australian healthcare setting: implications for managers. *J Healthc Manag* 2004; 49(6): 377–392.

20 Hills DJ, Joyce CM, Humphreys JS. Prevalence and prevention of workplcae aggression in Australian clinical medical practice. *Aust Health Rev* 2011; 35(3): 253–61. doi:10.1071/AH10983

21 Chapman R, Perry L, Styles I, Combs S. Consequences of workplace violence directed at nurses. *Br J Nurs* 2009; 18(20): 1256–61.

22 Bonner G, McLaughlin S. The psychological impact of aggression on nursing staff. *Br J Nurs* 2007; 16(13): 810–4.

23 Yildirim D. Bullying among nurses and its effects. *Int Nurs Rev* 2009; 56(4): 504–11. doi:10.1111/j.1466-7657.2009.00745.x

24 Jackson D, Clare J, Mannix J. Who would want to be a nurse? Violence in the workplace–a factor in recruitment and retention. *J Nurs Manag* 2002; 10(1): 13–20. doi:10.1046/j.0966-0429.2001.00262.x

25 Johnson SL. International perspectives on workplace bullying among nurses: a review. *Int Nurs Rev* 2009; 56(1): 34–40. doi:10.1111/j.1466-7657.2008.00679.x

26 House of Commons Committee of Public Accounts. A safer place at work: protecting NHS hospital and ambulance staff from violence and aggression. London: House of Commons Committee of Public Accounts; 2006. Available at http://www.publications.parliament.uk/pa/cm200203/cmselect/cmpubacc/641/641.pdf [verified 19 April 2011].

27 Watson R, Stimpson A, Hostick T. Prison health care: a review of the literature. *Int J Nurs Stud* 2004; 41(2): 119–28. doi:10.1016/S0020-7489(03)00128-7

28 Condon L, Gill H, Harris F. A review of prison health and its implications for primary care nursing in England and Wales: the research evidence. *J Clin Nurs* 2007; 16(7): 1201–9. doi:10.1111/j.1365-2702.2007.01799.x

29 Indig D, Topp L, Ross B, Mamoon H, Border B, Kumar S. *et al*. 2009 NSW Inmate Health Survey. Sydney: Justice Health; 2010.

30 Gadon L, Johnstone L, Cooke D. Situational variables and institutional violence: a systematic review of the literature. *Clin Psychol Rev* 2006; 26(5): 515–34. doi:10.1016/j.cpr.2006.02.002

31 Duhart DT. Violence in the workplace, 1993–99. Bureau of Justice Statistics, U.S. Department of Justice; 2001. Available at http://bjs.ojp.usdoj.gov/content/pub/pdf/vw99.pdf [verified 19 April 2011].

32 Perrone S. Violence in the workplace. Canberra: Australian Institute of Criminology; 1999. Available at http://www.aic.gov.au/documents/4/1/0/%7B410FD288-AD82-4E4E-A6FE-C7C30D283528%7Dfull_report.pdf [verified 19 April 2011].

33 Daffern M, Mayer MM, Martin T. A preliminary investigation into patterns of aggression in an Australian forensic psychiatric hospital. *J Foren Psychi Psych* 2003; 14(1): 67–84. doi:10.1080/1478994031000074306

34 Rutherford A, Rissel C. A survey of workplace bullying in a health sector organisation. *Aust Health Rev* 2004; 28(1): 65–72. doi:10.1071/AH040065

35 Lines R. The right to health of prisoners in international human rights law. *Int J Prison Health* 2008; 4(1): 3–53. doi:10.1080/17449200701862145