

Differences in risk and protective factors for workplace aggression between male and female clinical medical practitioners in Australia

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Abstract

Objectives. The aim of the present study was to investigate differences in prevalence, as well as risk and protective factors, for exposure to workplace aggression between male and female clinicians in Australian medical practice settings.

Methods. In a cross-sectional, self-report study in the third wave of the Medicine in Australia: Balancing Employment and Life survey (2010–11), 16 327 medical practitioners were sampled, with 9449 (57.9%) respondents working in clinical practice. Using backward stepwise elimination, parsimonious logistic regression models were developed for exposure to aggression from external (patients, patients' relatives or carers and others) and internal (co-workers) sources in the previous 12 months.

Results. Overall, greater proportions of female than male clinicians experienced aggression from external ($P < 0.001$) and internal ($P < 0.01$) sources in the previous 12 months. However, when stratified by doctor type, greater proportions of male than female general practitioners (GPs) and GP registrars experienced external aggression ($P < 0.05$), whereas greater proportions of female than male specialists experienced external ($P < 0.01$) and internal ($P < 0.01$) aggression. In logistic regression models, differences were identified in relation to age for males and experience working in medicine for females with external and internal aggression; working in New South Wales (vs Victoria) and internal aggression for females; a poor medical support network and external aggression, and perceived unrealistic patient expectations with internal aggression for males; warning signs in reception and waiting areas with external aggression for males; and optimised patient waiting conditions with external and internal aggression for females.

Conclusions. Differences in risk and protective factors for exposure to workplace aggression between male and female clinicians, including in relation to state and rural location, need to be considered in the development and implementation of efforts to prevent and minimise workplace aggression in medical practice settings.

What is known about the topic? Workplace aggression is prevalent in clinical medical settings, but there are conflicting reports about sex-based differences in the extent of exposure, and little evidence on differences in risk and protective factors for exposure to workplace aggression.

What does this paper add? Differences in workplace aggression exposure rates between male and female clinicians are highlighted, including when stratified by doctor type. New evidence is reported on differences and similarities in key personal, professional and work-related factors associated with exposure to external and internal aggression.

What are the implications for practitioners? In developing strategies for the prevention and minimisation of workplace aggression, consideration must be given to differences between male and female clinicians, including with regard to personality, age and professional experience, as well as work locations, conditions and settings, as risk or protective factors for exposure to aggression in medical work.

Additional keywords: aggression, gender, medicine, physician.

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Introduction

Workplace aggression remains a major concern in health care work. Yet, although there is ample evidence of the prevalence, predictors and effects of workplace aggression in nursing, it has been less studied in medicine.^{1,2} In Australian studies, workplace aggression has been identified as an intrinsic part of medical work,

with up to 71% of clinicians reporting exposure to non-physical forms and up to 32% of reporting exposure to physical forms in the previous 12 months, with most aggression emanating from patients and their family or carers.^{3–5} High rates of internal (co-worker) aggression have also been reported in Australian medical settings.^{3,6} In addition, there is a growing understanding

of key personal, work and patient factors that may increase the risk of exposure to aggression in medical work,^{1,7} and the negative effect it may have on clinician health and well being,⁸ workforce participation decisions^{9,10} and the quality of medical care.^{11,12}

The risk of workplace aggression is recognised as being higher in younger and primarily hospital-based clinicians.^{3,13,14} To date, however, the body of evidence is equivocal, even contradictory, with regard to differences between males and females in exposure to non-physical^{1,3,15} and physical forms of aggression.^{1,3,16} It has also been argued that there is a need to more clearly understand these differences in risk and protective factors for exposure to workplace aggression, both to facilitate an understanding of differences in effect and to better target prevention and minimisation measures.^{1,15,16} Therefore, the aim of the present study was to determine the extent of differences between male and female clinicians in exposure to aggression from sources external or internal to the workplace, and the risk and protective factors for external and internal aggression in a large sample of Australian clinical medical practitioners.

Methods

The present cross-sectional study of workplace aggression in Australian clinical medical practice was undertaken in the third wave of the Medicine in Australia: Balancing Employment and Life (MABEL) longitudinal survey.^{3,7-9,17} Data were collected between March 2010 and June 2011, with 16 327 (27.6%) medical practitioners sampled from the Medical Directory of Australia (MDA).^{7,8} The conduct of the study was approved by The University of Melbourne Faculty of Business and Economics Human Ethics Advisory Group and the Monash University Standing Committee on Ethics in Research Involving Humans.

Variables

The MABEL questionnaires for each of the four Australian 'doctor types' (general practitioners (GPs) and GP registrars, specialists, specialists in training and hospital non-specialists) included many common demographic and other profile variables, including sex, age, international medical graduate (IMG) status and location by state and Australian Standard Geographic Classification (ASGC) of remoteness.¹⁸ Personal control orientation, '...the extent to which one regards one's life-chances as being under one's own control in contrast to being fatalistically ruled',¹⁹ was measured with a revalidated version of the Pearlin Mastery Scale, summed from 1 to 7 on a continuous scale, with higher scores indicating greater external control orientation.⁷

Workplace aggression was defined as follows:

'...any workplace aggression directed toward you in the last 12 months whilst you were working in medicine (i.e. any circumstance or location in which you performed your role as a medical practitioner), including:

- *Verbal or written abuse, threats, intimidation or harassment* – such as ridicule, abusive email, racism, bullying, contemptuous treatment and non-physical threats or intimidation

- *Physical threats, intimidation, harassment or violence* – such as a raised hand or object, unwanted touching, damage to property and sexual or other physical assault.³

The frequencies of verbal or written and physical aggression experienced from three external sources (patients, patients' relatives or carers and others external to the workplace) and from internal sources (co-workers) in the previous 12 months were estimated with five-point ordinal response scales, namely 'Frequently' (once or more each week), 'Often' (a few times each month), 'Occasionally' (a few times each 6 months), 'Infrequently' (a few times in 12 months) and 'Not at all'. Most clinicians reported experiencing aggression 'Infrequently' or 'Not at all'.³ The aggression prevalence variables were transformed into binary variables (Yes/No), then aggregated into two items representing whether or not clinicians experienced aggression from external or internal sources.

Other items included that had been identified previously as associated with workplace aggression exposure related to work hours, conditions and resources, and perceived patient characteristics (Box 1).⁷ The variables 'total hours worked' and researcher-developed variables for total hours in the most recent usual week in 'public and non-government- organisation (NGO) sector work', 'private sector work' and 'residential and aged care sector work' were imputed from questionnaire items requesting self-reported hours worked in the most recent usual week, excluding on-call work, and hours worked in the most recent usual week in 10 practice setting categories. A small number of outliers (greater than 120 h per week) were excluded from analyses.⁷ Also included were the extent to which respondents agreed or disagreed with four work and patient items ('I have a poor support network of other doctors like me', 'It is difficult to take time off when I want to', 'My patients have unrealistic expectations about how I can help them', 'The majority of my patients have complex health and social problems') on a five-point ordinal-response scale (0 = strongly disagree; 1 = disagree; 2 = neutral; 3 = agree;

Box 1. Work hours, conditions and resources, and perceived patient characteristics variables

1. Total hours worked in your most recent usual week (excluding on-call work)?^A
2. Hours worked in the most recent usual week (excluding on-call work) in the:
 - i. public and non-government organisation (NGO) sector?^A
 - ii. private sector?^A
 - iii. residential and aged care sector?^A
3. Do you do any on-call yourself?^B
4. I have a poor support network of other doctors like me.^C
5. The hours I work are unpredictable.^C
6. It is difficult to take time off when I want to.^C
7. My patients have unrealistic expectations about how I can help them.^C
8. The majority of my patients have complex health and social problems.^C

^AContinuous scale.

^BBinary scale (0 = no, 1 = yes).

^COrdinal scale (0 = strongly disagree; 1 = disagree; 2 = neutral; 3 = agree; 4 = strongly agree).

4=strongly agree). Each item was dichotomised about the median to facilitate analyses.

For the workplace aggression prevention and minimisation variables (Box 2), point-prevalence estimates were obtained by respondents indicating 'Yes', 'Unsure' or 'No' as to whether each strategy had been implemented in their main workplace. A 'Not Applicable' option was provided for item 12 only but, because of the large proportion of missing (8.1%) and not applicable (12.0%) responses, this item was not retained. The remaining items were transformed into binary variables (Yes/No or unsure) to facilitate analyses.⁷

Statistical analyses

The respondent profile was compared with the 2010 MDA clinician profile using the Kruskal–Wallis equality of populations rank test (corrected for tied ranks) for categorical variables (doctor type, sex, state and ASGC location) and the independent *t*-test for mean age.³ Exposure to workplace aggression from external and internal sources was stratified by sex and, in addition, by 'doctor type'. Prevalence rates were determined with 95% confidence intervals (CI; exact binomial). Differences in exposure prevalence were determined with the χ^2 test.

Logistic regression modelling was performed to identify statistically significant associates of exposure to external and internal aggression for male and female clinicians, controlling for doctor type. All variables were initially entered into each model. Using backward stepwise elimination (retention criterion

$P < 0.05$), the most parsimonious models were determined. Each model was assessed for goodness of fit (Pearson χ^2 and Hosmer–Lemeshow χ^2 with 20 equal groups) and discrimination (area under the receiver operating characteristic (ROC) curve). Statistical analyses were conducted using Stata version 13 (StataCorp).

Results

Of the 16 327 medical practitioners sampled, 57.9% (9449) responded and indicated currency of clinical practice in Australia, and were found to be broadly representative of the Australian clinical medical workforce.³ Frequencies and proportions of categorical profile and work variables are summarised in Table 1, continuous profile and work variables are summarised in Table 2, and binary workplace aggression variables are summarised in Table 3.^{3,7–9,17}

Overall, female clinicians reported higher rates of exposure to aggression from both external and internal sources in the previous

Table 1. Categorical profile and work variables

Note, the percentages given in the table below are subject to rounding error. GP, general practitioner; yes, 'agree/strongly agree'; no, 'strongly disagree/disagree/neutral'

Variable	n (%)
Doctor type	9449
GPs and GP registrars	3515 (37.2)
Specialists	3875 (41.0)
Hospital non-specialists	1171 (12.4)
Specialists in training	888 (9.4)
Sex	9438
Male	5398 (57.2)
Female	4040 (42.1)
State location	9449
Australian Capital Territory	177 (1.9)
New South Wales	2550 (27.0)
Northern Territory	102 (1.1)
Queensland	1707 (18.1)
South Australia	748 (7.9)
Tasmania	309 (3.3)
Victoria	2882 (30.5)
Western Australia	974 (10.3)
Rurality of location	9399
Major city	7142 (76.0)
Inner regional	1493 (15.9)
Outer regional	542 (5.8)
Remote/very remote	222 (2.4)
International medical graduate	9389
Yes	1878 (20.0)
Do any on-call work	9226
Yes	5661 (61.4)
Poor support network of doctors	9280
Yes	2114 (22.8)
Unpredictable work hours	9278
Yes	3191 (34.4)
Difficult to take time off	9302
Yes	3846 (41.3)
Unrealistic patient expectations	9185
Yes	2897 (31.5)
Complex patient problems	9190
Yes	6146 (66.9)

Box 2. Aggression prevention and minimisation actions implemented in the main workplace

1. Policies, protocols and/or procedures for aggression prevention and management.
2. Warning signs in reception and in patient and public waiting areas.
3. Alerts to high risk of aggression (e.g. on patient record).
4. Restricting or withdrawing access to services for aggressive people.
5. Incident reporting and follow-up.
6. Education and training (for self and other staff).
7. Duress alarms in consultation and treatment areas.
8. Clinician escape optimised in consultation or treatment rooms (e.g. seated closer to the door than the patient, two exits in the rooms).
9. Optimised lighting, noise levels, comfort and waiting times in patient and public waiting areas.
10. Patient and public access restrictions (e.g. advisory signs, locked doors to treatment and storage areas).
11. Building security systems (e.g. burglar alarms, deadlocks, window bars, surveillance cameras, security personnel).
12. Safety and security measures for after-hours or on-call work or home visits (e.g. security escorts to external areas at night, movement register, working in pairs, satellite phones).

Table 2. Continuous profile and work variables
CI, confidence interval; NGO, non-government organisation

Variable	n	Range	Mean	s.d.	95% CI
Age (years)	9345	23–91	46.4	12.6	46.1–46.6
Mastery	9145	1–7	2.55	1.21	2.53–2.58
Hours worked in usual week	9243	0–120	42.6	14.8	42.3–42.9
Hours worked public/NGO	9126	0–120	20.9	22.2	20.4–21.3
Hours work private	9126	0–110	19.3	19.2	18.9–19.7
Hours work residential or aged care	9145	0–58	0.51	2.29	0.47–0.56

Table 3. Workplace aggression variables

Note, the percentages given in the table below are subject to rounding error

Variable	n	Yes (%)
External aggression ^A	9122	6168 (67.6)
Internal aggression ^A	9208	2503 (27.2)
Policies and procedures ^B	9186	6031 (65.7)
Warning signs ^B	9188	4584 (49.9)
Alerts to high risk ^B	9170	4809 (52.4)
Restricting access ^B	9173	4114 (44.8)
Incident reporting ^B	9164	6251 (68.2)
Education and training ^B	9151	4901 (53.6)
Duress alarms ^B	9167	4293 (46.8)
Clinician escape ^B	9168	2150 (23.5)
Patient waiting ^B	9164	4780 (52.2)
Facility access ^B	9166	5664 (61.8)
Building security ^B	9157	6403 (69.9)

^AYes = experienced any non-physical or physical aggression in the previous 12 months.

^BNo = no or unsure.

12 months. There was a significant difference ($P < 0.001$) between overall rates of exposure to workplace aggression from external sources, with to 69.6% (95% CI 68.1–71.0; $n = 3909$) of female clinicians compared with 66.1% (95% CI 64.8–67.4; $n = 5203$) of male clinicians exposed. There was also a significant difference ($P < 0.01$) between overall rates of exposure from internal sources, with 28.9% (95% CI 27.5–30.3; $n = 3948$) of female clinicians compared with 25.9% (95% CI 24.7–27.1; $n = 5250$) of male clinicians exposed. The patterns of exposure were found to be more complex, however, when stratified by doctor type, as shown in Fig. 1 (external aggression) and Fig. 2 (internal aggression). Significant differences were found only in higher rates for male compared with female GPs and GP registrars exposed to external aggression ($P < 0.05$), and higher rates for female compared with male specialists exposed to external and internal aggression ($P < 0.01$).

The outcomes of logistic regression modelling are summarised in Table 4 (exposure to workplace aggression from external sources) and Table 5 (exposure to workplace aggression from internal sources). Only those variables retained in the final models are shown. The models were found to be a good fit to the data and demonstrated adequate discrimination, with all areas under the ROC curves > 0.7 .²⁰ Although there were many similarities between the regression models for male and female clinicians, some differences are apparent.

Discussion

The results of the present study expand the existing evidence base on exposure to workplace aggression in medical practice settings.^{3–5,21,22} As identified previously,³ female medical clinicians are more vulnerable to experiencing workplace aggression

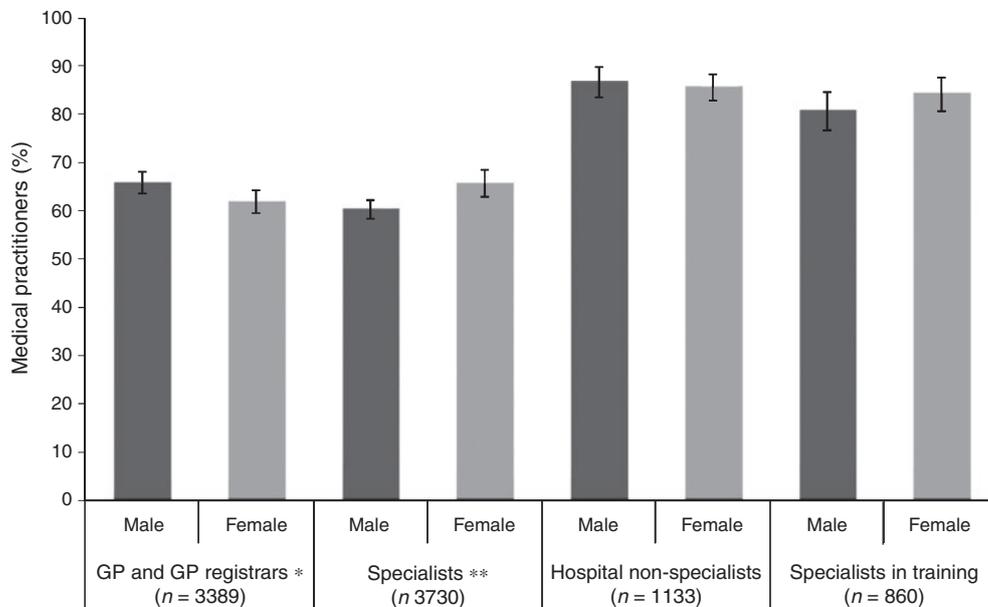


Fig. 1. Proportion of male and female medical practitioners experiencing external aggression in the previous year. * $P < 0.05$, ** $P < 0.01$.

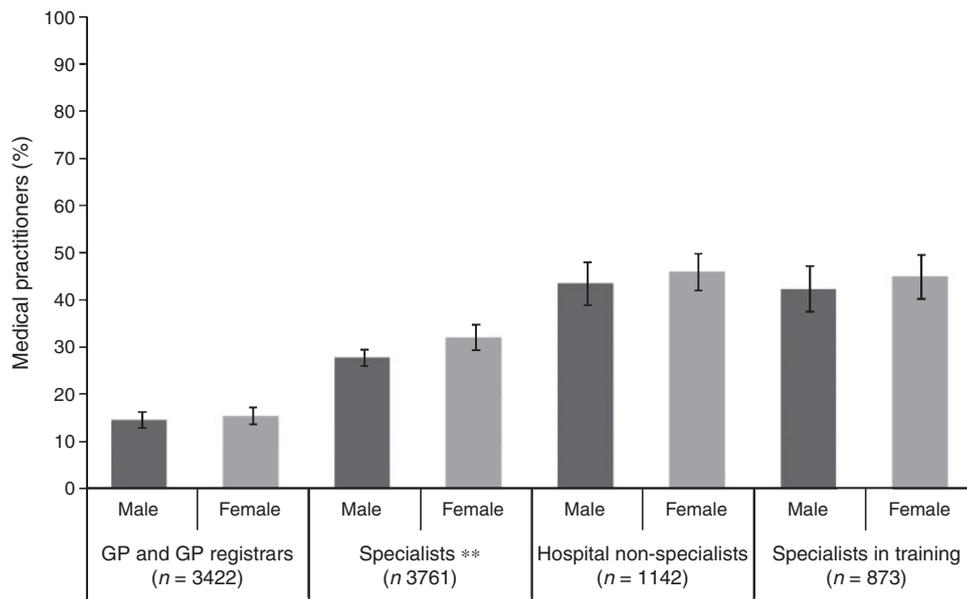


Fig. 2. Proportion of male and female medical practitioners experiencing internal aggression in the previous year. ***P* < 0.01.

Table 4. Risk and protective factors for external aggression in the previous year (controlling for doctor type)

P* < 0.05, *P* < 0.01, ****P* < 0.001. OR, odds ratio; CI, confidence interval; NGO, non-government organisation; GoF, goodness of fit; ROC, receiver operating characteristic

Variables	Male (n = 4686)		Female (n = 3384)	
	OR	95% CI	OR	95% CI
Age (years) ^A	0.98***	0.97–0.98		
Experience in medicine (years) ^A			0.97***	0.96–0.98
Mastery (1–7) ^A	1.15***	1.08–1.22	1.25***	1.16–1.34
Hours worked in usual week ^A	1.02***	1.01–1.02	1.01***	1.01–1.02
Hours worked public/NGO services ^A	0.99***	0.99–0.99	1.01***	1.01–1.02
Unpredictable work hours ^B	1.75***	1.50–2.05	1.90***	1.57–2.29
Poor support network of doctors ^B	1.21*	1.02–1.42		
Complex patient problems ^B	1.42***	1.23–1.63	1.48***	1.25–1.76
Warning signs ^C	1.16*	1.00–1.34		
Alerts to high risk ^C	1.42***	1.22–1.65	1.46***	1.23–1.74
Restricting access ^C	1.53***	1.32–1.79	1.36**	1.13–1.63
Optimal patient waiting ^C			0.80**	0.67–0.94
Pearson’s GoF (<i>P</i>)		0.278		0.219
Hosmer-Lemeshow 20 GoF (<i>P</i>)		0.465		0.851
Area under ROC curve		0.719		0.734

^AContinuous variable.

^BReference group ‘strongly disagree/disagree/neutral’.

^CReference group ‘no or not sure’.

from all sources in Australia than males overall. However, when stratified by doctor type, higher rates of external and internal aggression were detected for female than male specialists only. Perhaps because of their gender and their relatively younger age compared with their male counterparts (*t* (3837) = 15.72, *P* < 0.001), female specialists are more exposed to aggression from patients, carers or others and from their co-workers. In contrast, although female GPs and GP registrars were younger

than their males counterparts (*t* (3475) = 18.06, *P* < 0.001), male GPs reported higher rates of external aggression. This may reflect the increasing number of female GPs, more of whom work part-time than male GPs.²³ It may also reflect a greater propensity for, or readiness of, male GPs and GP registrars to engage with aggressive patients, carers and other people, or may reflect practice policies of directing more challenging or potentially challenging patients to male clinicians.

Table 5. Risk and protective factors for internal aggression in the previous year (controlling for doctor type)
 * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. OR, odds ratio; CI, confidence interval; GoF, goodness of fit; ROC, receiver operating characteristic

Variables	Male ($n = 4759$)		Female ($n = 3465$)	
	OR	95% CI	OR	95% CI
Age (years) ^C	0.97***	0.97–0.98	–	–
Experience in medicine (years) ^C	–	–	0.99**	0.98–1.00
Mastery (1–7) ^C	1.24***	1.17–1.31	1.28***	1.19–1.36
State (reference Victoria)				
Australian Capital Territory	1.36	0.78–2.38	1.43	0.86–2.40
New South Wales	1.12	0.94–1.35	1.26*	1.01–1.56
Northern Territory	1.34	0.65–2.77	1.17	0.52–2.61
Queensland	1.33**	1.08–1.64	1.39**	1.09–1.77
South Australia	1.09	0.82–1.44	1.15	0.83–1.61
Tasmania	1.10	0.74–1.65	1.41	0.86–2.32
Western Australia	0.95	0.73–1.23	0.96	0.71–1.29
Rurality (reference major city)				
Inner regional	1.09	0.89–1.33	1.26	0.97–1.66
Outer regional	1.26	0.92–1.73	0.77	0.51–1.15
Remote/very remote	1.63*	1.02–2.60	2.04*	1.15–3.62
Hours worked in usual week ^A	1.02***	1.01–1.02	1.02***	1.01–1.03
Hours worked private practice ^A	0.98***	0.98–0.99	0.99***	0.98–0.99
Unpredictable work hours ^B	1.40***	1.21–1.63	1.41***	1.19–1.68
Poor support network of doctors ^B	1.31**	1.11–1.54	1.47***	1.21–1.78
Unrealistic patient expectations ^B	1.24**	1.07–1.44	–	–
Optimal patient waiting ^C	–	–	0.78**	0.66–0.91
Pearson's GoF (P)	0.648	–	0.435	–
Hosmer-Lemeshow 20 GoF (P)	0.329	–	0.369	–
Area under ROC curve	0.723	–	0.737	–

^AContinuous variable.

^BReference group 'strongly disagree/disagree/neutral'.

^CReference group 'no or not sure'.

Consistent with the literature was the relative vulnerability of hospital-based and younger or less-experienced medical clinicians to workplace aggression.^{1,3,5,7,21,22} For hospital non-specialists and specialists in training, similarly very high rates of exposure to external and internal aggression were reported by both males and females. Controlling for doctor type, greater age for males and greater experience working in medicine for females were consistently negatively associated with external and internal aggression exposure. Consistent with previous findings,⁷ for both male and female clinicians, increasing external control orientation was similarly positively associated with experiencing external and internal aggression in the previous 12 months. In addition to clinician gender, personality characteristics, age and medical work experience must be key considerations in developing prevention and minimisation strategies for exposure to external and internal aggression.

Also reflecting previous results,⁷ working in Queensland (vs Victoria) was found to be a risk for experiencing internal aggression for both males and females, controlling for all other variables. However, for females only, working in New South Wales (vs Victoria) was additionally positively associated with exposure to internal aggression. Working in rural and remote locations, compared with working in major cities, was strongly associated with experiencing internal aggression in the previous

12 months for both male and female clinicians. This somewhat reflects previous results,⁷ but other studies have primarily focused on exposure to patient aggression. Clearly, location of work needs to be an important consideration for policy and practice, both at the state and local level, in the prevention and minimisation of exposure to workplace aggression in medical settings.

Increasing hours worked in the most recent usual week was weakly associated with external and internal aggression for both male and female clinicians, whereas a stronger association was detected for clinicians reporting that their hours of work were unpredictable, especially with regard to external aggression, which somewhat reflects the literature.^{5,7,21,24,25} In novel findings, increasing hours worked in the public and NGO sector were weakly associated with external aggression, negatively for males but positively for females, whereas for internal aggression increasing hours worked in private practice for both males and females was weakly protective for aggression exposure. In addition, for male clinicians, having a poor support network of other doctors was positively associated with external aggression, whereas for both male and female clinicians, having a poor support network of other doctors was positively associated with internal aggression. As highlighted previously, in work that can already be stressful, a felt absence of support networks may

further compromise coping and control capacities, including with regard to effectively minimising challenging encounters with others.⁷

The demands of patient care are perhaps exemplified in the concerns of clinicians about many of their patients' complex health and social problems, and unrealistic care expectations. Clinicians who felt that the majority of their patients have complex health and social problems, compared with those who did not, were at a more than 40% increased risk of external aggression. For male clinicians only, perceiving that most of their patients have unrealistic expectations about how they can be helped, compared with those who did not, was associated with internal aggression. Both perceptions may be reflective of stressful work conditions associated with clinical practice in lower socioeconomic status (SES) communities.⁷ In other studies,^{4,26} medical work in lower SES communities has been found to be associated with workplace aggression.^{4,26}

Four of 11 measures for preventing and minimising aggression in the main place of work remained as associates of external aggression in the regression models, with one remaining for internal aggression. For males, warning signs in reception and patient and public waiting areas were associated with external aggression. For both males and females, the use of alerts to high-risk patients and the practice of restricting or withdrawing access to services for aggressive people were associated with external aggression. Each of these prevention and minimisation measures has little or no evidence of efficacy, despite some support in theory and expert opinion,¹ but may be more likely used as a reactive response to past experiences or pre-existing high rates of workplace aggression.⁷ For female clinicians only, optimised lighting, noise levels, comfort and waiting times in patient and public waiting areas were negatively associated with exposure to external and internal aggression. Stress-inducing environmental conditions may contribute to an elevation in the risk of aggressive behaviour, so the presence of optimised waiting conditions may be reflective of a more service-oriented practice setting, one that is more attuned to the needs of patients and staff.⁷ Why this factor may be protective only for female clinicians is unclear.

Although this report has focused on sex-based differences in the prevalence of and risk and protective factors for exposure to workplace aggression, the role of gender needs to be considered. It has been argued that men who work in the health sector may have a different 'masculinity' from men who work in other industries, demonstrating, for example, more caring and less aggressive traits, and this may underpin the relatively fewer differences between male and female clinicians with regard to overall exposure rates to workplace aggression.¹⁵ This perspective may also explain, in part, some of the differences identified in the present study, such as in the relative vulnerability to aggression exposure of females in the specialities, where gender inequity may be more prominent.⁶ The fact remains, however, that the prevalence of workplace aggression in Australian clinical medical practice is unacceptably high for both male and female clinicians. Furthermore, there are several other important risk and protective factors (such as age, control orientation, practice location and work conditions) that need to be considered in developing strategies to prevent and minimise the likelihood and consequences of this concerning work health and safety issue.

Limitations of the present study include that self-report data were obtained from a cross-section of medical practitioners. This may affect the reliability of some responses and no attributions of causality can be made. Sampling biases were minimal because the profile of respondents was broadly representative of the population. Self-selection bias by those who had experienced aggression was also likely minimal because the aggression items were a small component of the MABEL questionnaires. Most items were concerned with estimates of frequency or perceptions. Although a clear definition of workplace aggression was provided, survey responses were subject to clinicians' own perceptions of the meaning of the questionnaire terms used and of experiencing the types, sources and relative frequencies of aggression. To minimise recall bias and maximise response accuracy, however, questionnaire items elicited estimates of aggression exposure in frequency ranges.²⁷ In addition, reporting of aggression prevention and minimisation measures relied on clinician knowledge of their presence or otherwise and the full range of measures applied in practice settings may not have been captured. Similarly, other important aspects of personality, work conditions and work resources may not have been included in the study.

Conclusion

The results of the present study highlight important similarities and differences in personal, professional and work factors associated with workplace aggression experienced by male and female clinical medical practitioners. While reaffirming some earlier results, as described above, the study has shed new light on this important work health and safety concern, particularly with regard to differential rates of exposure to internal and external aggression for male and female clinicians. In addition, state-based risks for aggression exposure and the increased risk for internal (co-worker) aggression in remote and very remote compared with metropolitan settings have been highlighted. The results provide evidence for legislators, policy makers, health services and the medical profession to inform the development of strategies that may more effectively prevent and minimise the likelihood and consequences of workplace aggression. These strategies need to take into account clinician gender, personality, age and professional experience, patient complexity and expectations, as well as medical work locations, conditions and settings. It is also expected that the results of the present study will provide an impetus for further inquiry into gender-based differences in workplace aggression experiences and its mitigation in clinical medical practice settings. Research efforts to further strengthen the evidence base on interventions for preventing and minimising workplace aggression in medical settings are also required.

Competing interests

None declared.

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