



Emergency clinician perceptions of occupational stressors and coping strategies: A multi-site study

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ABSTRACT

Background: Research exploring multi-disciplinary emergency department (ED) clinicians' perceptions of their working environment is limited, although exposure to occupational stressors is frequent. This study describes ED clinicians' perceptions of their working environment, occupational stressors and their use of coping strategies. **Methods:** A cross-sectional descriptive study was conducted in 2017 at two Australian public hospital EDs. Nursing and medical staff completed a print-based survey of 100 items, which included three scales and a demographic questionnaire. Responses were analysed using descriptive statistics and regression analysis.

Results: Doctors and nurses ($n = 241$) completed the survey (response rate 45%). Workload featured as a major factor in perception of the working environment and was a frequently occurring stressor. Death or sexual abuse of a child was the highest rated stressor, despite relative infrequency of exposure. When coping strategies were adjusted for sex, female respondents were more likely to use negative strategies such as blaming themselves (Odds Ratio, OR 4 [1.6–9.7]; $p < 0.01$) and less likely to use positive strategies such as exercise (OR 0.2 [0.1–0.6]; $p < 0.01$).

Conclusions: While stressors were similarly rated among the diverse group of clinicians, the ways in which they reported coping varied. Further research is required to facilitate design of staff support strategies.

1. Introduction

Globally, emergency departments (EDs) are experiencing increasing service demands [1–4]. Reasons for increased demand include difficulty accessing, and costs associated with seeing a primary health practitioner, the aging population, lack of social support, changes to mental health care provision and delivery, and increased use of associated emergency services such as ambulances [4–6]. An increase in the number of presentations to an ED can lead to increased workload and pressures on ED staff [7].

Pressures associated with workload in caring for critically unwell or deteriorating patients [8], workplace violence, inter-professional concerns, caring for child who experienced sexual assault or death of a

child [9], high staff turnover [10] and concerns relating to malpractice or litigation [9,11] are noted occupational stressors and exposure to occupational stressors can affect the psychosocial and physiological homeostasis of workers [12]. The detrimental impacts of exposure to such occupational stressor/s include; health complaints for staff members, increased staff turnover within organisations and higher risk of patients experiencing an adverse medical event [13–17]. The use of appropriate, positive coping strategies is a critical part of limiting the impact of occupational stressors on staff [18].

Coping is a vital part of the discourse when considering working in a stressful environment such as the ED. Coping is defined as 'the person's cognitive and behavioural efforts to manage the internal and external demands in the person-environment transaction' and is a process

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whereby appraisal and reappraisal may occur continuously or on a number of occasions [19]. Not all coping strategies are considered positive or beneficial, with some individuals adopting maladaptive or negative coping strategies such as self-blame or escape/avoidance to deal with stressors [20]. Moreover, the way in which situations are appraised (i.e. perception of stress) and the coping strategies used are also likely to be influenced by gender [21]. However to-date, there appears to be limited evidence within the literature exploring the influence of gender on perception of stress and coping styles by ED clinicians. Whilst information regarding ED clinicians' perceptions of their working environment and coping strategies is emerging [22], there is a need to consider whether the findings vary by gender, professional role and across the emergency healthcare sector. The aim of this study was to describe the perceived stressors and coping strategies of nursing and medical staff at two EDs in south-east Queensland, Australia while considering the influence of variables such as gender and professional role.

2. Methods

2.1. Design and setting

A cross-sectional descriptive study was undertaken to describe ED clinical staff perceptions of their working environments and coping strategies. The study was conducted at two public hospitals (Site A and Site B) within the same health service located in south-east Queensland, Australia. Site A was a large 750 bed major hospital while Site B was a medium metropolitan, 404 bed hospital [23]. The number of recorded annual ED presentations for Site A and Site B for the year 2015–2016 were 104,000 and 60,000 respectively [23]. The health service currently serves a city population of 555,721 [24].

2.2. Sample

The sample was drawn from staff working in the ED at the two study sites. The cohort employed in the ED consisted of approximately 380 nurses (Site A: 230, Site B: 150) and approximately 160 medical officers. Whilst medical officers are employed to work across both sites, nurses typically work at one of the two sites. Participation in the study was voluntary. Only medical and nursing staff employed in the ED at the time the study was conducted were eligible to participate. No other exclusion criteria were applied.

2.3. Data collection

Printed study information sheets and surveys were distributed to medical and nursing staff between 27th February and 10th March 2017. To support recruitment and optimise response rate, information sessions outlining the purpose and goals of the study were conducted at both sites every day during the two-week period. Surveys were clearly marked with the sites of distribution (i.e. Site A and Site B) to ensure that the data could be subsequently entered and analysed accordingly. Participants completed and returned the survey either via post in reply-paid envelopes or to a secure box located in the ED. Completion of the survey implied consent. The survey took approximately 30 min to complete.

The survey used in this study has been used elsewhere [22] and consists of the working Environment Scale 10 (WES-10) [25], The Jalowiec Coping Scale (JCS) Part A [26], the Emergency Department Stressor Scale (EDSS) [9] and a set of demographic items. In addition to the previous survey, we collected information regarding the frequency of exposure to stressors.

The WES-10 is a ten-item scale measuring staff satisfaction with the working environment with regard to four sub-scales i) self-realisation (the extent that a person feels supported), ii) workload (the expectation to be in multiple places as at once or the amount of tasks imposed upon

them at one time), iii) conflict (the extent in which the individual experiences loyalty issues or conflict), and iv) nervousness (the extent in which one feels tense or nervous within the department or nervous to go to work) [27]. In the current study, confirmatory factor analysis of the WES-10 indicated that the proposed four-factor model had a moderate fit to the data ($\chi^2 = 61.2$, $p < 0.001$, [RMSEA] = 0.07, [CFI] = 0.94, [TLI] = 0.91). Modification indices showed that item five of the self-realisation subscale cross-loaded onto different factors. This is in line with previous research [22]. As such, a second confirmatory factor analysis excluding this item was undertaken and returned a good fit to the data ($\chi^2 = 32.3$, $p = 0.05$, RMSEA = 0.05, CFI = 0.98, TLI = 0.96). As such, item 5 was removed in the current study. Cronbach's alpha for the self-realisation scale was 0.77. Spearman Brown was 0.63 for workload, 0.62 for conflict and 0.66 for nervousness.

The JCS Part A is a sixty-item scale assessing coping strategies used by ED clinicians. This scale is purposed to measure eight facets of coping including confrontive, evasive, optimistic, fatalistic, emotive, palliative, supportive and self-reliance strategies. Scores on this scale range from 0 (Never used) to 3 (Used often). We were interested in the individual coping strategies reported by the study participants and therefore did not combine the items into sub-scales.

The EDSS is a scale of fifteen occupational stressors [9]. Occupational stressor exposure frequency was measured using a four-point Likert scale (never, seldom [at least once a month], sometimes [at least once a week] and often [at least daily]). A demographic questionnaire was also included which consisted of questions relating to age, professional role, sex and years of experience.

2.4. Statistical analysis

Data were entered into Statistical Package for Social Sciences version 24 (IBM Corp. SPSS Version 24. Armonk, NY) and Stata version 14 (StataCorp, College Station, TX, USA). Data entry was undertaken by one member of the research team (EE) and accuracy of the data entry was confirmed by checking a random 10% subset of the data by another member (AJ). Data entry, cleaning and analysis occurred during the same year as data collection.

Participant demographics were reported by study site. Mean ratings of the workplace environment (WES) were reported, and the mean difference (and 95% confidence interval [CI] of that difference) was calculated to compare across sex and site. Coping strategies were reported as 'never/seldom' and 'sometimes' and 'often' to distinguish those coping strategies commonly used from those rarely used. The difference in proportions (and 95% CI of that difference) was used to compare across sex and study site. Stressor ratings were reported as medians and inter-quartile range (IQR) as these displayed left skew. The difference between medians (and Bonett-Price 95% CIs of that difference) was used to compare across sex and site. For analysis, responses were reported as never/seldom versus sometimes/often to distinguish events that occurred \geq once per week with those rare events. The difference in proportions (and 95% CI of that difference) was again used to compare across sex and study site.

To explore sex differences further, regression analyses were undertaken. Such analyses sought to examine whether sex differences emerged independent of other demographic characteristics, particularly job role, with the majority of the female cohort being nurses. These characteristics were chosen *a priori*. Within such analyses, the WES subscales, JCS items and job stress items were regressed on sex, age, study type and job type (nurse or physician). Linear regression was used for the WES subscales, quantile regression was used for the stressor items, and logistic regression was utilised for JCS items and exposure to stressors.

For descriptive analyses, pairwise deletion of missing data was used, with numbers missing being reported. The number of missing values was small in all instances. For the regression analysis, missing data were imputed using chained equations. For each item, twenty imputations

Table 1
Demographical and clinical characteristics of respondents, by study site.

Characteristic	Site A (n = 147)		Site B (n = 93)	
	Medical Officers	Nurses	Medical Officers	Nurses
Age	n = 38	n = 105	n = 8	n = 81
Median (IQR)	35.5 (28.0–42.3)	28.0 (25.5–40.5)	30.0 (26.3–34.8)	34.0 (26.5–43.5)
Gender (n = 231)				
Female n (%)	14 (37.8)	92 (90.2)	4 (57.1)	70 (86.4)
Job Title		n = 104 (%)		n = 84 (%)
Nursing n (%)				
EN		6 (5.8)		3 (3.6)
RN		79 (76.0)		66 (78.6)
Senior RN		19 (18.3)		15 (17.9)
Medical n (%)	n = 36		n = 8	
Junior medical officer	9 (25.0)		4 (50.0)	
Senior medical officer	27 (75.0)		4 (50.0)	
Median years working as a clinician (IQR)	n = 37 10.00 (3.5–16.5)	n = 104 6.08 (3.1–11.8)	n = 8 6.00 (2.8–9.8)	n = 83 8.00 (4.0–16.0)
Median years working in the ED (IQR)	n = 37 8.0 (0.9–15.0)	n = 105 4.0 (2.0–8.5)	n = 8 2.0 (0.4–5.5)	n = 83 6.0 (2.0–10.0)
Median years working in current role (IQR)	n = 38 4.0 (1.0–7.0)	n = 104 4.0 (2.1–8.8)	n = 8 1.3 (1.0–5.8)	n = 83 5.0 (2.0–10.0)
Current FTE n (%)	n = 27	n = 92	n = 6	n = 75
< 0.5	0 (0.0)	2 (2.2)	0 (0.0)	2 (2.7)
0.51–1.0	27 (100)	90 (97.8)	6 (100.0)	73 (97.3)

Abbreviations: FTE = full-time equivalency; IQR = inter quartile rang; n = sub group; EN = enrolled nurse; RN = registered nurse; % = percentage.

were estimated using the remaining scale items, sex, age, site and job role [28].

3. Results

3.1. Demographic data

The study had an overall response rate of 44.6% (241/540). A total of 189 (80.4%) and 46 (19.6%) responses were received from nurses and medical officers (MOs), respectively. Six respondents did not list their professional role. As the MOs work across both EDs, for the purpose of analysis, they were allocated to the site at which they were issued their survey. An overview of the demographic and clinical characteristics of the respondents is provided in Table 1. The demographic profile of staff at both study sites was relatively similar.

3.2. WES-10

Mean scores on the four WES subscales were higher for Site A compared to Site B. Females scored higher than males for conflict; but this finding did not emerge after adjustment for other demographic variables. Analysis of site differences only focussing on nurses revealed

the same pattern of results. Findings are provided in Table 2.

3.3. Occupational stressors

Clinician rating of the occupational stressors is summarised in Table 3, whilst Table 4 presents a summary of the level of exposure to these occupational stressors. Death and sexual abuse of a child was consistently rated as the most stressful event, however respondents reported relatively low frequency of exposure to this stressor. Females reported higher stress from inability to provide optimal care, dealing with critically injured family members, and from concerns about professional development. However, no sex differences were seen after adjustment for other demographic factors. Heavy workloads with poor-skill mix, and high acuity patients were stressful events with high exposure; 88% of respondents reported experiencing high workload at least once per week, while 98% of respondents reported high acuity patients. Dealing with the media was the least common stressor with only 2% of respondents experiencing this at least once per week. Site A respondents more commonly experienced high workload, inability to provide optimum care, mass casualty incidents, and overcrowding compared to Site B.

Table 2
Mean scores for the four WES-10 subscales by demographic characteristics.

WES Subscale	All staff (n = 241)	Site		Difference between site A and B (95% CI) ^a	Sex		Difference between Males and Females (95% CI)	Difference between Females and Males after controlling for age, job role and site (95% CI)
		A (n = 146)	B (n = 94)		Female (n = 182)	Male (n = 48)		
Self-Realisation	2.6 (0.6)	2.7 (0.6)	2.6 (0.7)	0.0 (−0.12 to 2.2)	2.6 (0.6)	2.7 (0.7)	−0.1 (−0.1 to 0.3)	−0.0 (−0.3 to 1.9)
Workload	2.8 (0.7)	3.0 (0.6)	2.6 (0.7)	0.5 (0.3–0.6)	2.9 (0.7)	2.8 (0.7)	0.1 (−0.1 to 0.3)	0.0 (−0.2 to 0.3)
Conflict	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)	0.0 (−0.2 to 0.2)	1.4 (0.8)	1.1 (0.8)	0.3 (0.0–0.5)	0.2 (−0.8 to 0.5)
Nervous	1.6 (0.8)	1.7 (0.8)	1.5 (0.8)	0.1 (−0.1 to 3.2)	1.7 (0.8)	1.5 (0.8)	0.2 (−0.1 to 0.4)	0.2 (−0.1 to 0.4)

There were missing data for WES scores (n = 1) and sex (n = 10).

^a May not exactly equal the difference in the two groups due to rounding. Bolded differences are those that do not include 0 thus being significant at p < 0.05.

Table 3
Stressor ratings of ED clinical staff.

Occupational stressor	All staff (n = 241)		Stressor rating, by site		Stressor rating, by sex			Median Difference between Females and Males after controlling for age, job role and site (95% CI)
		Median (IQR)	Site B		Female Median (IQR)	Male Median (IQR)	Median Difference (95% CI)	
			Median (IQR)	Median (IQR)				
Death or sexual abuse of a child	13 (10–15)	13 (10.3–15)	13 (10–15)	0 (–1.5 to 1.5)	13 (10–15)	13 (11–14)	0 (–1.5 to 1.5)	0.0 (–1.5 to 1.5)
Inability to provide optimum care	12 (9.5–13)	12 (10–14)	11 (8–13)	1 (–0 to 2)	12 (10–14)	10 (9–12)	2 (1.0–3.0)	1.0 (–0.5 to 2.5)
Heavy workload and poor skill-mix	12 (10.5–14)	13 (11–14.5)	12 (10–14)	1 (–0 to 2)	13 (11–15)	12 (10–13)	1 (–0.0 to 2.0)	0.0 (–1.0 to 1.5)
Mass casualty incident	10 (6–14)	11 (6–14)	10 (6–14)	1 (–1 to 3)	10 (6–14)	11 (6.3–13)	–1 (–3.0 to 1.0)	–0.0 (–2.5 to 2.5)
Workplace violence	10 (7–13)	10 (6.3–13)	10 (7–12)	0 (–1 to 1)	10 (7–13)	10 (5–12)	0 (–1.5 to 1.5)	0.5 (–2.0 to 2.5)
Environmental concerns e.g. overcrowding	10 (7–13)	11 (8–13)	10 (6–12)	1 (–0.5 to 2.5)	10 (7–13)	11 (8–12)	–1 (–2.0 to 0.0)	0.0 (–1.5 to 2.0)
Concerns about nursing a critically injured or dying family member and friend	10 (6–13)	10 (6–13)	10 (6–12)	0 (–2 to 2)	10 (7–13)	7.5 (4–12)	2.5 (0.5–4.5)	2.0 (–1.0 to 4.5)
High acuity patients	10 (7.5–12)	10 (8–12)	10 (6–12)	0 (–0.5 to 0.5)	10 (8–12)	9.5 (6–11)	0.5 (–0.5 to 1.5)	0.0 (–1.5 to 2.0)
Poor professional relations	10 (6–12)	10 (6–12)	9.5 (6–13)	0.5 (–0.5 to 1.5)	10 (6–13)	9 (5.3–12)	1 (–0.0 to 2.0)	1.0 (–1.5 to 3.0)
Crisis management and bereavement	9 (6–12)	9 (6–12)	8 (6–12)	1 (–0.5 to 2.5)	9 (6–12)	8.5 (6–11.8)	0.5 (–1.5 to 2.5)	0.5 (–1.5 to 2.0)
Medico-legal concerns	9 (5–12)	9 (5–12)	9 (5–12)	0 (–2 to 2)	9 (5–12)	8.5 (5–12)	0.5 (–2.0 to 3.0)	–0.0 (–3.0 to 3.0)
Concerns about professional development	8 (4–10)	8 (5–10)	8 (4–10.3)	0 (–2 to 2)	8 (5–10)	6 (4–10.8)	2 (0.0–4.0)	1.0 (–1.5 to 3.5)
Infectious diseases exposure	7 (4–11)	8 (5–11)	5.5 (3–10)	2.5 (0.5–4.5)	7 (4–10)	6 (4–11)	1 (–1.5 to 3.5)	1.0 (–1.0 to 3.0)
Administrative or budgetary concerns	5 (2–10)	5 (3–9.5)	5 (2–10)	0 (–2 to 2)	5 (2–8)	5 (2–10)	0 (–3 to 3)	–0.5 (–3.0 to 2.0)
Dealing with the media	3 (1–6)	4 (1–7)	2 (1–6)	2 (0.5–3.5)	3 (1–6.8)	4 (2–6.8)	–1 (–3.0 to 1.0)	–0.5 (–2.5 to 1.0)

Items ranked from the highest to lowest median score based on Site A and Site Bs combined responses; IQR = interquartile range. Data are rounded to the nearest 0.5 to ensure that estimates reflect possible values. Bolded differences are those that do not include 0 thus being significant at $p < 0.05$

There were n = 7 missing values for death or sexual abuse of a child, crisis management, and administrative concerns; n = 5 for inability to provide optimal care, heavy workload, environmental concerns and high acuity patients; n = 6 for workplace violence, concern about nursing a dying family member or friend, medico-legal concerns, professional development, infectious diseases exposure, and dealing with the media; n = 10 for mass casualty incident; n = 8 for poor professional relations

Table 4
Stressors experienced ≥ 1 per week by ED clinicians.

Occupational stressor	Overall Cohort (n = 241)	Stressor rating, by site			Stressor rating, by sex			Odds ratio for females after controlling for age, site and job role (95% CI)			
		n (%)	Site A		Site B	Difference (95% CI)	Female		Male	Difference (95% CI)	
			n (%)	n (%)			n (%)				n (%)
Death or sexual abuse of a child	13 (6%)	9 (6%)	4 (4%)	2% (-4 to 8%)	10 (6%)	2 (4%)	1% (-5 to 8%)	1.4 (0.2–8.5)			
Inability to provide optimum care	178 (75%)	116 (81%)	62 (67%)	13% (2–25%)	138 (76%)	34 (72%)	3% (-11 to 18%)	1.3 (0.5–3.0)			
Heavy workload and poor skill-mix	204 (88%)	131 (92%)	73 (82%)	10% (1–19%)	158 (89%)	40 (85%)	4% (-7 to 15%)	1.0 (0.3–2.9)			
Mass casualty incident	16 (7%)	14 (10%)	2 (2%)	8% (2–14%)	13 (7%)	2 (4%)	3% (-4 to 10%)	1.0 (0.2–5.6)			
Workplace violence	153 (65%)	87 (61%)	66 (72%)	-11% (-23 to 1%)	124 (69%)	25 (53%)	15% (0–31%)	1.9 (0.9–4.1)			
Environmental concerns e.g. overcrowding	181 (77%)	117 (81%)	64 (70%)	12% (0–23%)	140 (77%)	36 (77%)	0% (-13 to 14%)	1.4 (0.6–3.4)			
Concerns about nursing a critically injured or dying family member and friend	42 (18%)	29 (20%)	13 (14%)	6% (-4 to 15%)	32 (18%)	7 (15%)	3% (-9 to 15%)	0.7 (0.3–2.0)			
High acuity patients	229 (98%)	141 (98%)	88 (98%)	0% (-4 to 4%)	175 (97%)	47 (100%)	-3% (-5 to 0%)	*			
Poor professional relations	103 (44%)	64 (45%)	39 (42%)	2% (-15 to 11%)	79 (44%)	21 (45%)	-1% (-17 to 15%)	1.0 (0.5–2.2)			
Crisis management and bereavement	62 (27%)	41 (29%)	21 (23%)	6% (-6 to 17%)	45 (25%)	15 (32%)	-7% (-21 to 8%)	1.1 (0.5–2.6)			
Medico-legal concerns	37 (16%)	21 (15%)	16 (18%)	-3% (-13 to 7%)	24 (13%)	12 (27%)	-13% (-27 to 1%)	0.4 (0.2–1.1)			
Concerns about professional development	69 (29%)	41 (29%)	28 (31%)	-2% (-14 to 10%)	57 (32%)	10 (21%)	10% (-3 to 24%)	1.6 (0.7–3.7)			
Infectious diseases exposure	63 (27%)	40 (28%)	23 (25%)	3% (-9 to 14%)	51 (28%)	11 (23%)	5% (-9 to 19%)	1.1 (0.5–2.6)			
Administrative or budgetary concerns	61 (26%)	39 (27%)	22 (24%)	3% (-8 to 15%)	46 (26%)	14 (30%)	-4% (-19 to 10%)	0.5 (0.2–1.2)			
Dealing with the media	4 (2%)	4 (3%)	0 (0%)	3% (0–5%)	2 (1%)	2 (4%)	-3% (-9 to 3%)	*			

Items ranked from the highest to lowest median score based on Site A and Site Bs combined responses; IQR = interquartile range. Data are rounded to the nearest 0.5 to ensure that estimates reflect possible values. Bolded differences are those that do not include 0 thus being significant at $p < 0.05$.

There were $n = 7$ missing values for death or sexual abuse of a child, crisis management, and administrative concerns; $n = 5$ for inability to provide optimal care, heavy workload, environmental concerns and high acuity patients; $n = 6$ for workplace violence, concern about nursing a dying family member or friend, medico-legal concerns, professional development, infectious diseases exposure, and dealing with the media; $n = 10$ for mass casualty incident; $n = 8$ for poor professional relations.

* ORs could not be calculated due to perfect prediction by Site and/or job role.

Table 5
Coping strategies used ‘sometimes’ or ‘often’ by ED staff that differed significantly between sexes (Coping strategies from the JCS-A © Anne Jalowiec).

Coping Strategy	Overall Cohort (n = 241)	Stressor rating, by site				Stressor rating, by sex				Odds ratio for females after controlling for age, site and job role (95% CI)
		Site A		Site B		Females		Males		
		n	(%)	n	(%)	n	(%)	n	(%)	
Exercise	154/235 (66%)	98 (68%)	56 (62%)	5% (-7 to 18%)	106 (60%)	42 (88%)	-28% (-39 to -16%)	0.2 (0.1–0.6)		
Got angry	100/240 (42%)	62 (42%)	38 (41%)	1% (-11 to 14%)	87 (48%)	9 (19%)	29% (16–42%)	2.6 (1.1–6.2)		
Discussed the problem with significant others	194/240 (81%)	117 (80%)	77 (83%)	-3% (-13 to 7%)	149 (82%)	35 (73%)	9% (-5 to 23%)	2.5 (1.0–6.1)		
Objective perspective	208/239 (87%)	124 (84%)	84 (91%)	-7% (-15 to 1%)	151 (83%)	47 (98%)	-14% (-21 to -9%)	0.1 (0.01–0.8)		
Planned what to do	159/236 (67%)	93 (66%)	66 (70%)	-5% (-17 to 7%)	113 (62%)	40 (85%)	-23% (-35 to -10%)	0.3 (0.1–0.8)		
Self-blame for problem	89/237 (38%)	52 (36%)	37 (40%)	-4% (-16 to 9%)	76 (42%)	9 (19%)	23% (10–36%)	3.7 (1.5–9.1)		

n = the number of respondents who selected the response; N = available number of responses overall; CI = confidence interval. Bolded differences are those that do not include 0 thus being significant at p < 0.05; *Coping strategies have been truncated. The complete scale is available from Professor Anne Jalowiec.

3.4. Coping strategies

The most frequently reported coping strategies used ‘sometimes’ or ‘often’ by all participants were trying to keep a sense of humour (88%), trying to look at the problem objectively and to see all sides (87%), trying to find out more about the problem (87%) and trying to keep the situation under control (90%). The majority of respondents reported using positive coping strategies, with only a small number indicating the use of maladaptive strategies. The full list of coping strategies is presented in supplementary attachment A. The coping strategies used by site and by sex were largely similar. However, females were more likely to get mad and let off steam (OR = 2.6, 95% CI: 1.1–6.2), blame themselves for the situation (OR = 3.7; 95%CI: 1.5–9.1), and talk the problem over with family or friends (OR = 2.5; 95%CI: 1.0–6.1) than males. Females were less likely to look at the problem objectively (OR = 0.1, 95% CI: 0.01–0.8), engage in physical activity (OR = 0.2, 95% CI: 0.1–0.6) or set up a plan of action (OR = 0.3, 95% CI: 0.1–0.8) compared to males. Table 5 presents coping strategies that were differentially used by male and female respondents.

4. Discussion

The aim of this study was to describe the perceived stressors and coping strategies of nursing and medical staff at two metropolitan EDs in south-east Queensland, Australia. While there were few differences in the ways clinicians rated stressors, the coping strategies reported varied. ED staff members’ perceptions of the working environment were similar across professional groups. The findings of this study support the finding that exposure to occupational stressors is problematic for all ED clinicians [29,30] and continues to build upon emerging international data reporting ED clinicians’ perception of their working environments, stressors and coping strategies likely to be used [8,31–33].

Staff perceptions of workloads, in particular, appear to be problematic for ED clinicians both within our study and in other similar studies [22]. This remains a source of occupational stress for ED clinicians. Despite the perception of high workloads, self-realisation (perceived level of connectedness and support) among the staff within our study was moderately high. Some researchers have reported a relationship between exposure to factors such as occupational stress [14], high workloads and low self-realisation [33] and attrition of clinicians [34–36]. Increased staff attrition can be costly for the health organisation and have considerable negative impacts on patient care and outcomes [32]. Implementing strategies to reduce workload or exposure to occupational stress is salient to ensure an optimal working environment [37] with the potential flow on effect to improve patient outcomes [38].

In an attempt to mitigate workload, strategies such as mandatory nurse:patient ratios were introduced into some health organisations [39,40]. Patient outcomes and staff job satisfaction improve with increased nurse:patient ratios [41] however such a simplistic approach to workload issues is not easily translated into high patient flow and dynamic EDs [39] leading to continued concerns about workloads for ED clinicians. Rather than solely focussing on factors contributing to occupational stress and workload, addressing the way in which ED clinicians cope may provide some benefit in improving staff stress, perception of working environments and patient outcomes.

ED clinicians tend to use a variety of coping strategies when exposed to occupational stressors [22] as also seen within our study. Only a few respondents within our study reported the use of maladaptive coping strategies, with the majority reporting use of more positive or adaptive strategies. In comparison to other clinical areas such as paediatrics, and women’s health, ED clinicians are more likely to adopt maladaptive or negative coping strategies [11,42]. Exposure to chronic stress and the type of coping strategies adopted has been linked to disengagement from work and the development of compassion fatigue and burnout [43].

Promoting the use of adaptive coping strategies has shown to improve perceived ability to cope with or manage stress [44]. Fostering the use of adaptive (positive) coping strategies likely aids in the development of resilience [45] which is a potentially protective factor against the development of burnout [46]. Despite the importance of the collaborative approach to care provided in ED, there has been limited inquiry considering medical and nursing staff in combination. The siloed approach adopted in much previous research may negate the understanding or exploring of potential inter-disciplinary factors that affect ED clinicians' perceptions of their working environment or stressors and use of coping strategies. Further exploration, of coping strategies of medical and nursing staff in the ED, and the impact these have on staff resilience, perception of their working environment and occupational stressors, will help to provide a more detailed understanding of this working environment.

Despite the length of the survey the overall response rate was good (45%) [47] suggesting that occupational stressors and coping strategies are of interest to ED clinicians. Limitations of this study include that there may have been other departmental or organisational factors impacting on the clinicians' perceptions of their working environment that were not captured within this study. This study was conducted at two sites in south-east Queensland and was undertaken at one point in time. Findings may be different if undertaken at different times of the year where seasonal factors like population increases over the holiday period or other potential confounders not captured occur. Only a small number of MOs responded from Site B as they are rostered to work across both sites. And so while there may have been some cross-contamination, we attempted to manage this by allocating responses to the site where the surveys were distributed. This study did not evaluate all components of the coping process and coping goals were not explored within this study. Understanding influences on the various components of the coping process would add value to the findings presented here [44,48]. Recommendations for future research include undertaking qualitative research to further explore staff perceptions and the design, implementation and evaluation of targeted interventions. Longitudinal cross-sectional studies are also recommended to ascertain changes over time.

5. Conclusion

Exposure to occupational stressors remains an issue for ED clinicians with literature now emerging highlighting the impact these stressors have on the individual, the organisation and patients. Extreme exposure to stressors appears to occur infrequently. Nonetheless staff are regularly exposed to a large number of chronic stressors with some staff relying on negative or maladaptive strategies in order to cope. Given the negative impact these stressors and coping strategies have, a more sophisticated approach to developing resilience in this population is required and in the context of the ED, a multi-disciplinary approach for this would be appropriate. The insights gained from this study along with further research will form the basis of practice development and developing policies around improving working environments in the ED.

Conflict of interest

The authors know of no conflicts of interest associated with this publication.

Ethical statement

This manuscript reports findings of a research study that adhered to the National Statement on the Conduct of Human Research by the Australian National Health and Medical Research Council. Ethical approval to conduct the study was obtained by the Gold Coast Hospital and Health Service and Griffith University Human Ethics Committee (HREC/14/QGC/173; NRS/16/15/HREC).

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Data statement

Data is unavailable to access as the research data is confidential.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ienj.2019.03.006>.

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