Occupational stress in the Australian nursing workforce: a comparison between hospital-based nurses and nurses working in very remote communities

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KEY WORDS

Hospital-based Nursing, Remote Area Nursing, Occupational Stress, Job Demands-Resources Model, Psychological Distress, Emotional Exhaustion, Work Engagement, Job Satisfaction.

ABSTRACT

Objective
To compare workplace conditions and levels of occupational stress in two samples of Australian nurses.

Design
The research adopted a cross-sectional design, using a structured questionnaire.

Setting
Health centres in very remote Australia and three major Australian hospitals.

Subjects
349 nurses working in very remote Australia and 277 nurses working in three major hospitals in South Australia and the Northern Territory.

Main Outcome Measures
The main outcome measures were psychological distress (assessed using the General Health Questionnaire-12), emotional exhaustion (assessed using the Maslach Burnout Inventory), work engagement (assessed using the Utrecht Work Engagement Scale-9) and job satisfaction (assessed using a single item measure based on previous relevant research).

Results
Results revealed that nurses working in major Australian hospitals reported higher levels of psychological distress and emotional exhaustion than nurses working very remotely. However, both groups report relatively high levels of stress. Nurses working very remotely demonstrated higher levels of work engagement and job satisfaction. There are common job demands and resources associated with outcome measures for both nurses working very remotely and nurses working in major hospitals.

Conclusion
This research has implications for workplace interventions and the retention of staff in both hospitals and remote area health care facilities.

INTRODUCTION

International reviews have demonstrated high levels of occupational stress in various health and community service professions, including nursing (Dollard et al 2007; Michie and Williams 2003; Bakker et al 2000). Indeed, stress in nursing has been an area of considerable interest and research for almost half a century (Menzies 1960). Decades of research documents a multitude of workplace stressors and their impact on various outcome measures, such as productivity, quality of patient care and worker health and well-being. Some studies cite a significantly higher incidence of suicide for female nurses than the national average (Munro et al 1998), while other studies have highlighted a reduced life expectancy for those working in the profession (Morton-Cooper 1984).

Whilst there is some degree of consistency in the literature about common nursing stressors, the occupational stress experience can vary for nurses depending on the ward or unit in which he/she works. This concept has been accepted by a number of researchers, and accordingly, nursing research has investigated occupational stress across a variety of nursing specialty areas. Psychiatric nursing (Brown et al 1995), critical care nursing (Sawatzky 1996), geriatric nursing (Hallberg and Norberg 1993) and neonatal nursing (Gribbins and Marshall 1982) are some areas receiving more focused attention. Findings reveal that perceptions of stressors, as well as the experiences of occupational stress, vary considerably between these different nursing specialities.

In line with the general nursing stress research, there is little dispute that nurses working in remote regions also suffer from high levels of occupational stress (Lenthall et al 2009). Remote communities in Australia suffer the poorest health outcomes (Australian Institute of Health and Welfare 2008) with fewer health care professionals per capita to provide the necessary health services (Productivity Commission 2006). Nurses working remotely are required to attend to wide-ranging client needs that often lie beyond the scope of metropolitan nursing practice. Extended professional responsibilities include the provision of services such as primary health care, trauma, health promotion and disease prevention, accident and emergency, acute care and chronic disease management, as well as the provision of care for mental health issues, substance misuse, domestic violence and child abuse (Kelly 1998).

The remote context is very demanding (Wakerman 2004) and these conditions have been associated with elevated levels of occupational stress (Willis 1991) and high workforce turnover (Kennedy et al 2003). Compared to nursing research conducted in hospital-based health care administrations, scant research has examined occupational stress in the remote area nursing workforce (Eley and Baker 2007; Yuginovich and Hinspeter 2007; Albion et al 2005; Lea and Cruickshank 2005; Hegney et al 2002a; Hegney et al 2002b; Hanna 2001; Fisher et al 1996). Reasons for resignation have been explored through qualitative methodologies, identifying issues such as lack of staff, lack of management support, lack of time off, limited financial resources, limited opportunities for professional development, professional isolation, on-call demands, unavailability of locum relief, family and schooling matters, and concerns for personal safety (Eley and Baker 2007; Dade-Smith 2004; Kennedy et al 2003). In relation to the issues of personal safety, workplace violence has also been identified as a contributing factor in remote nursing turnover (Morrell 2005; Fisher et al 1995), with further research highlighting that increased exposure to violent or traumatic incidents in the workplace places nurses working remotely at a greater risk of developing conditions such as Posttraumatic Stress Disorder (Kelly 1999). In a sample of Queensland rural health professionals, Albion et al (2005) found elevated distress levels for nurses specifically, and lower levels of job satisfaction.

Evidently, occupational stress is an issue for nurses working in both hospital-based settings and remote health care facilities. The present study aimed to assess and compare job conditions (i.e. job demands and resources) and psychological well-being (i.e. psychological distress, emotional exhaustion, work engagement and job satisfaction) in these two nursing populations.

METHOD

The research was cross-sectional in design. A structured questionnaire was distributed to 1,007 nurses working in very remote regions across Australia. Remoteness was identified using the ARIA+ categorisation of 'very remote' (score of 10.53–15) (Australian Institute of Health and Welfare 2004). Various recognised methods were adopted to maximise survey return, including personalised cover letters and non-monetary rewards (Nakash et al 2006; Gore-Felton et al 2002). A database of remote nurse workplaces belonging to the Council of Remote Area Nurses of Australia (CRANA) was accessed for the study. This database was subsequently updated and refined. The questionnaire was also distributed to 1,600 nurses working in three major hospitals in South Australia and the Northern Territory. Three hospitals agreed to participate in the study and consequently promoted survey distribution through their respective administrative systems.

Ethics approval was granted by the Central Australian Human Research Ethics Committee, the Human Research Ethics Committee of the Northern Territory Department of Health and Community Services, and two university-based human research ethics committees.

The questionnaire yielded self-report data assessing the various workplace demands and resources, work outcomes and demographic information. The data were analysed using the Statistical Package for the Social Sciences (SPSS) for Windows, version 16.

Job Demands

Job demands were assessed using the Nursing Stress Scale (NSS) (Gray-Toft and Anderson 1981). The 34-item instrument consists of seven factors, or seven major sources of stress, including workload, conflict with physicians, conflict with other nurses and supervisor, death and dying, inadequate preparation to deal with the emotional needs of patients and their families, lack of staff support and uncertainty concerning treatment. The scale provides a list of nursing situations commonly perceived as stressful (e.g. "the death of a patient") and asks respondents "How often in your present workplace or unit have you found the situation to be stressful?". Responses correspond with a 4-point scale, ranging from 0 (*never*) to 3 (*very frequently*). The scale has sound internal reliability ($\alpha=.90$).

Job Resources

Supervision and Social Support were measured using their respective subscales from the Job Content Questionnaire (JCQ) (Karasek et al 1998). Each subscale includes 4 items, with statements such as "My supervisor is concerned about the welfare of those under him/her" (Supervision) and "People I work with are competent in doing their job" (Social Support). Responses correspond with a 5-point scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). The Supervision sub-scale has a Cronbach's alpha of .92. The Social Support sub-scale has a Cronbach's alpha of .83.

Possibilities for Development and Job Control were assessed using their respective sub-scales from the Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen 2000). The Job Control sub-scale is comprised of 14 items, such as "I can decide when to take a break". Responses correspond with a 5-point scale, ranging from 0 (*always*) to 4 (*never*). The scale yields a Cronbach's alpha of .87. The Possibilities for Development sub-scale has 3 items. Items ask respondents questions such as, "Does your work require you to take initiative?". Responses, once again, correspond with a 5-point scale, ranging from 0 (*to a large extent*) to 4 (*to a very small extent*). The scale has a Cronbach's alpha of .74.

The final job resource of measurement in this study was Opportunity for Professional Development. This was a purpose-designed scale based on the work of Aiken and Patrician (2000). In consideration of their research surrounding organisational traits of hospitals, it was decided to take a measure of continuing education and career development opportunities. The scale is four items and yields a Cronbach's alpha of .84. Respondents are presented with statements such as "There are active in-service/continuing education programs for me". Responses range from 0 (*strongly disagree*) to 4 (*strongly agree*).

Psychological Distress and Emotional Exhaustion

Measurement of psychological distress and emotional exhaustion was achieved using the General Health Questionnaire-12 (GHQ-12) (Goldberg and Williams 1991) and the Maslach Burnout Inventory (MBI) (Maslach et al 1996), respectively. The GHQ-12 includes 12 questions such as, "Have you recently lost much sleep over worry?". Participants are required to respond on a 4-point scale ranging from 1 (*not at all*) to 4 (*much more than usual*). The GHQ is a well-established scale with high internal consistency ($\alpha=0.91$). The emotional exhaustion subscale from the MBI includes 5 items such as "I feel emotionally drained from my work", with responses corresponding with a 7-point scale ranging from 0 (*never*) to 6 (*everyday*). This scale also demonstrates high internal consistency ($\alpha=0.93$).

Work Engagement and Job Satisfaction

Work engagement was assessed using the Utrecht Work Engagement Scale-9 (Schaufeli and Bakker 2003). This scale presents 9 items such as "I am enthusiastic about my job", and asks respondents to indicate the frequency with which they experience such feelings, on a 7-point scale ranging from 0 (*never*) to 6 (*everyday*). The Utrecht Work Engagement Scale demonstrates sound internal consistency ($\alpha=0.91$). Finally, job satisfaction was measured with a single item asking participants, "Taking everything into consideration, how do you feel about your job?" (Warr et al 1979). Again, responses correspond with a 7-point scale, ranging from 0 (*extremely dissatisfied*) to 6 (*extremely satisfied*).

FINDINGS

Descriptive Statistics

Three hundred and forty-nine (349) nurses working in very remote Australia participated in the study, generating an overall response rate of 34.6%. The majority of respondents from this sample were female (88.5%), with ages ranging from 20 to 68 years (*M*=4, *SD*=11). The response rate for nurses working in major hospitals was lower (17.6%). Two hundred and seventy-seven (277) nurses comprised this sample; 89.6% were female, ranging in age from 22 to 71 years (*M*=42, *SD*=11).

Psychological Distress and Emotional Exhaustion

Nurses working in major Australian hospitals reported higher levels of psychological distress than nurses working remotely (χ^2 (df=612)=1.42, *n.s.*), although the difference was not statistically significant. The sample of nurses working in major hospitals did however demonstrate significantly higher levels of emotional exhaustion than nurses working remotely (χ^2 (df=621)=3.07, *p*<.01).

Work Engagement and Job Satisfaction

A comparison of means also demonstrated a statistically significant differences for work engagement (χ^2 (df=597)=2.31, *p*<.05) and job satisfaction (χ^2 (df=624)=2.15, *p*<.05) with nurses working in remote Australia reporting higher levels for both of these variables than nurses working in selected Australian hospitals. The means and standard deviations for all outcome measures can be viewed in table 1.

Table 1: Means and standard deviations for all outcomes measures for nurses working in very remote Australia (n=349) and nurses working in major hospitals (n=277).

Outcome Measure	Hospital	Remote
	M (SD)	M (SD)
1. Psychological Distress	13.7 (6.4)	13.0 (5.8)
2. Emotional Exhaustion	27.5 (15.2)	23.9 (14.0)**
3. Work Engagement	3.96 (1.27)	4.19 (1.16)*
4. Job Satisfaction	3.79 (1.34)	4.01 (1.22)*

**=difference significant at *p*<.01

* =difference significant at *p*<.05

Job Demands and Resources – Nurses working in Major Hospitals

All job demands were significantly positively correlated with psychological distress and emotional exhaustion (*p*<.01) for nurses working in major hospitals. Conflict with other nurses and supervisors (*r*=.43, *p*<.01) and lack of support (*r*=.42, *p*<.01) demonstrated the strongest relationships with psychological distress, while workload (*r*=.55, *p*<.01), uncertainty concerning treatment (*r*=.45, *p*<.01), and conflict with physicians (*r*=.45, *p*<.01) held the strongest relationships with emotional exhaustion (see table 2).

Furthermore, all job resources were significantly positively correlated with work engagement and job satisfaction (*p*<.01). Possibilities for development was the resource most strongly associated with work engagement (*r*=.30, *p*<.01), while supervision (*r*=.46, *p*<.01) and opportunity for professional development (*r*=.41, *p*<.01) demonstrated the strongest relationships with job satisfaction (see table 3).

Table 2: Means, Standard Deviations and Correlations for Nurses Working in Major Hospitals (N=277) and Nurses Working in Very Remote Australia (N=349) between Job Demands and Adverse Psychological Health Outcome

Job Demand	M (SD)	Psychological Distress	Emotional Exhaustion
1. *Hospital nurses*			
Death and dying	6.6 (3.3)	.19**	.28**
Conflict with physicians	4.8 (2.1)	.25**	.45**
Inadequate preparation	2.3 (1.4)	.25**	.38**
Lack of support	2.9 (1.9)	.42**	.44**
Conflict with nurses	5.0 (2.6)	.43**	.44**
Workload	9.3 (3.9)	.37**	.55**
Uncertainty re treatment	5.0 (2.4)	.34**	.45**
2. *Remote nurses*			
Death and dying	6.6 (3.1)	.20**	.23**
Conflict with physicians	4.9 (2.1)	.34**	.28**
Inadequate preparation	2.7 (1.3)	.21**	.17**
Lack of support	2.7 (1.9)	.31**	.30**
Conflict with nurses	4.0 (2.3)	.32**	.32**
Workload	9.0 (3.6)	.29**	.43**
Uncertainty re treatment	5.0 (2.3)	.22**	.20**

**=correlation significant at p<.01 (two-tailed)

re=concerning

Job Demands and Resources – Nurses working in Very Remote Australia

Analyses revealed statistically significant positive relationships between all job demands and psychological distress and emotional exhaustion (*p*<.01) for nurses working remotely. Conflict with physicians (*r*=.34, *p*<.01) and conflict with other nurses and supervisors (*r*=.32, *p*<.01) held the most significant relationships with psychological distress, while workload (*r*=.43, *p*<.01) and conflict with other nurses and supervisors (*r*=.32, *p*<.01) were the job demands most strongly correlated with emotional exhaustion (see table 2).

In assessing the relationships between job resources and positive work outcomes, analyses revealed statistically significant correlations between all job resources and work engagement and job satisfaction (*p*<.01). Work engagement was most strongly correlated with job control (*r*=.32, *p*<.01) and possibilities for development (*r*=.30, *p*<.01). Possibilities for development (*r*=.44, *p*<.01) and opportunity for professional development (*r*=.43, *p*<.01) were the job resources which held the most significant relationships with job satisfaction (see table 3).

Table 3: Means, Standard Deviations and Correlations for Nurses Working in Major Hospitals (N=277) and Nurses Working in Very Remote Australia (N=349) between Job Resources and Positive Work Outcomes

Job Resource	M (SD)	Work Engagement	Job Satisfaction
1. *Hospital Nurses*			
Supervision	10.5 (3.6)	.21**	.46**
Social Support	10.9 (2.5)	.17**	.36**
Opportunity for PD	9.7 (3.2)	.18**	.41**
Job Control	29.0 (8.6)	.21**	.36**
Possibilities for Devt	1.8 (1.9)	.30**	.36**
2. *Remote Nurses*			
Supervision	10.1 (3.9)	.19**	.42**
Social Support	11.1 (2.8)	.21**	.36**
Opportunity for PD	8.8 (3.6)	.22**	.43**
Job Control	23.7 (8.5)	.32**	.40**
Possibilities for Devt	1.3 (1.7)	.30**	.44**

**=correlation significant at *p*<.01 (two-tailed)

PD=Professional Development

Devt=Development

DISCUSSION

Nurses working in major Australian hospitals reported higher levels of psychological distress and significantly higher levels of emotional exhaustion than nurses working in remote Australia. We propose the possibility that the prevailing work cultures surrounding the treatment of occupational stress in each of these nursing contexts may lend itself to some justification. For example, a nurse suffering from stress in a hospital-based health care administration is often presented with the options of accessing counselling from the designated Employee Assistance Program (EAP), assuming stress leave or applying for a ward transfer. While some of these options may also be available to nurses working remotely, staff relief is difficult to achieve in remote regions and consequently the nurse may remain in his/her position, minimising the issue and fostering a more self-reliant approach. According to Fisher et al (1996, pp. 198) nurses working remotely "are reluctant to draw attention to themselves and the state of their job conditions for fear of drawing unwanted media attention to local community problems". This may help to explain the reportedly lower levels of psychological distress and emotional exhaustion for nurses working in very remote Australia.

Results also demonstrated that nurses working remotely reported higher levels of work engagement and job satisfaction than nurses working in major hospitals. This finding is consistent with previous relevant research. According to Hegney et al (1997), many nurses working remotely have made a deliberate decision to do so, often because of lifestyle and occupational factors that would be otherwise unavailable to them. Such factors include the remote environment itself and also the relatively autonomous, extended generalist role of remote nurses. Unlike nurses working in a metropolitan setting who perform more consistently in acute areas of practice and therefore consolidate the specialists roles they carry out, nurses working remotely reportedly derive increased job satisfaction from the clinical variety and the requirement to use a large range of advanced skills (Hegney et al 1999).

It is interesting to note that some job demands and job resources were consistent for both nursing populations in their relationships with work outcomes. Workload was significantly positively correlated to emotional exhaustion, while conflict with other nurses and supervisors was significantly positively correlated with psychological distress – for both samples. Furthermore, possibilities for development and opportunity for professional development were significantly positively correlated with work engagement and job satisfaction, respectively. Again, this finding applied to both hospital-based nurses and nurses working very remotely.

A limitation of the study is that the analysis is cross-sectional. Without longitudinal analysis we are not able to confirm the causal direction of the relationships. However, some weight is provided to our interpretation, given that our research is theory-based and several other studies support the directional hypothesis. Additionally, as we were only able to survey those employed at the time of survey distribution, we were unable to access data from those nurses who have left the profession. Results may consequently under-represent levels of stress and burnout in the two nursing populations.

CONCLUSION

Whilst levels of occupational stress were higher for nurses working in hospital-based settings than nurses working in very remote regions across Australia, occupational stress is clearly a significant workplace issue for nurses in both samples. Levels of stress in both nursing populations are undeniably high and present important implications for the psychological well-being of staff in both nursing contexts. Future research should consider workplace interventions that address job demands and increase job resources. While stressors themselves may be unique in each nursing field, demands and resources, and their impact on work outcomes may be similar for these two nursing populations.

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