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Role Of Stress Amongst Nurses At The Workplace: Concept Analysis

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Abstract

The aim of this paper was to review the literature on factors related to role stress in nurses, and present strategies for addressing this issue based on the findings of this review while considering potential areas for development and research. Computerized databases were searched as well as hand searching of articles in order to conduct this review. This review identified multiple factors related to the experience of role stress in nurses. Role stress, in particular, work overload, has been reported as one of the main reasons for nurses leaving the workforce. This paper conclu[1]des that itis a priority to find new and innovative ways of supporting nurses in their experience of role stress. Some examples discussed in this article include use of stress education and management strategies; team-building strategies; balancing priorities; enhancing social and peer support; flexibility in work hours; protocols to deal with violence; and retention and attraction of nursing staff strategies. These strategies need to be empirically evaluated for their efficacy in reducing role stress.

Keywords *Age And Role Stress, Role Stress And Nurses, Role Stress And Staffing, Role Stress And Violence, Role Stress Reduction.*

INTRODUCTION

Role stress in nurses continues to be an area of great interest to the profession, particularly as stress affectsthe mental and physical health of the nurses as well as having an economic cost to the community (Cooper, 1998). Evidence by a review of the literature conducted by Lambert and Lambert (2001) found that over 100 articles on role stress in nursing had been publishedin English over the past two decades, signifying the underlying importance of this area and its continued lack of resolution. Changes continue to occur rapidly in the health care area, and currently an epidemic exists of an international shortage of nursing staff that showslittle sign of abating (Janiszewski Goodin, 2003). In theUSA, more than 10 000 nurses are required to meet existing shortages, with demand outstripping supply by more than 800 000 by 2020 (Buerhaus, 2004). In Aus- tralia, the shortage is the greatest since

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Correspondences address: Karen Hancock, UWS, School of Nursing, Family and Community Health, Parramatta Campus, PO Box 1797, Pen- rith South DC, NSW 1797, Australia. Email: k.hancock@uws.edu.au Received 17 March 2004; accepted 5 July 2004. and there will be a shortage of up to 40 000 nurses by 2010 (RMIT University, 2003).

This situation, coupled with an environment of increasing consumption of health care goods and ser-vices, indicates the need for continued attention in identifying the most problematic areas for nurses in terms of work stress. This information can be usedin supporting nurses in their roles.

This article reviews literature on factors related to role stress in nurses from 2000 to 2003, followed by adiscussion on potential suggestions for strategies to reduce this experience for nurses, based on the litera-ture.

SEARCH STRATEGY

A recent review of the literature was conducted using computerized databases that were searched over the time period 2000–2003 and included CINAHL (nurs-ing and allied health), PsychINFO (psychology) and SSCI (the Social Science Citation Index). Hand search- ing of articles was also performed as well as citations in papers identified by the above searches. Key words included 'role stress' and 'nurs*', and 'nurs* burnout'.

This search resulted in approximately 500 articles, of which 68 were relevant to this paper.

Definitions of stress, role stress and burnout

The experience of stress occurs when situations are perceived as exceeding one's resources (Lazarus & Folkman, 1984). Work stressors are 'antecedent condi- tions within one's job or the organization which require adaptive responses on the part of the employees' (Jex & Beehr, 1991 p. 312). Role stress may be viewed as the consequence of disparity between an individual's per-ception of the characteristics of a specific role and what is actually being achieved by the individual currently performing the specific role (Lambert & Lambert, 2001). Thus, when role expectations exceed what is achieved, role stress occurs. Burnout is a role stress reaction and may be regarded as a syndrome of emo- tional exhaustion, depersonalization and reduced per- sonal accomplishment (Maslach & Jackson, 1986).

REVIEW OF THE LITERATURE ON ROLE STRESS AND NURSING

A review comparing international research on role stress and strain conducted by Lambert and Lambert (2001) found that most of the studies in this field have been conducted in the USA and the UK. The key areas identified by the studies can be grouped as work envi-ronment factors, followed by the next most common aspect studied being the factors which influence and predict role stress. In smaller proportions, physiologi- cal and attitudinal factors and evaluation of instrumen- tation were also studied.

Common work environment factors found to be associated with role stress were: having little control in one's job; high job demands and low supportive rela- tionships (e.g. Chapman, 1993; Fong, 1993; Glass et al.,1993; Tovey & Adams, 1999; Webster

& Hackett, 1999;Cheng et al., 2000); dealing with death and dying; beingmoved among different patient care units within theorganization; shortage of essential resources, including nursing staff; and work overload (Foxall et al., 1990; Frisch et al., 1991; Snape & Cavanagh, 1993; Hatcher & Laschinger, 1996; Lally & Pearce, 1996; Avallone & Gibbon, 1998; Chung & Corbett, 1998; Murray, 1998). Environmental factors highlighted by the studies included uncooperative family members and clients, inability to reach physicians and unfamiliarity with sit- uations (e.g. Walcott-McQuigg & Ervin, 1992); concernfor poor quality of nursing staff, medical staff and patient care (Scalzi, 1990); inability to deliver quality nursing care (Boswell, 1992); shift rotation (Robinson& Lewis, 1990); time demands and state laws restricting the ability to carry out the advanced practice role (Manderino et al., 1994); poor relationships with supervisors, coworkers and physicians (Decker, 1997); and low organizational commitment (Lee & Henderson, 1996).

Given that nursing shortages are at an all time high it is important that a more recent review of the literatureon role stress and factors related to the experiencebe conducted, as well as suggestions for strategies to reduce role stress among nurses. This review also aims to obtain a wider international perspective as most studies have focused on the USA/UK experience.

RELATIONSHIP BETWEEN ROLE STRESSAND NURSING SHORTAGES

Janiszewski Goodin (2003) conducted a recent litera-ture review of the nursing shortage in the USA. Nurs-ing is characterized by an increasingly older group of workers as well as an undersupply of employees. The review identified four main areas contributing to the nursing shortage: the aging registered nurse (RN) workforce; declining enrollment in undergraduate nursing programs; the changing work climate; and the associated 'poor' image of nursing portrayed in the community. The work climate is characteristically that of more individuals with acute and chronic conditions requiring more complex care, contrasted by shorter hospitalization stays requiring RNs to care for and sta-bilize patients in a shorter time period. This situation leads to a significant increase in role stress. The American Nurses Association (ANA) (2001a) posted a national nursing survey online in 2000. Nearly 7300 nurses completed the staffing and patient care survey. Quantitative data revealed that the increased patient load and decreased time to provide direct patient careresulted in less satisfaction in the nurses' jobs. In addition, 40–60% of respondents reported that they fre- quently skipped meals and breaks to care for patients,felt increased pressure to accomplish their work, and participated in mandatory overtime. These factors con- tributed to increased dissatisfaction with their work environment and a lack of capacity to care for self. Although the large sample size lends validity to the findings, the self-report nature of this study may havebiased findings.

Aiken et al. (2001) conducted a study of 700 hospi- tals across five countries and involved 43 000 nurses from the USA, Canada, England, Scotland and Ger- many. A consortium developed a nurse questionnairedealing with issues related to nurses' perceptions of their working environments and quality of nursing care, job satisfaction, career plans, and feelings of jobburnout. Their study found low morale, job dissatisfac- tion, burnout and intent to leave their current employ-ers were common across the sample. Furthermore, nurses reported an increase in workload and non-nursing tasks, resulting in a decreased ability to com-plete nursing duties due to the competition created between nursing and non-nursing tasks. This context has the potential to contribute significantly to a decrease in the provision of quality care leading to neg- ative outcomes for the patient and their family. A lim- itation to the study was the inclusion of only developed countries and sole reliance on self-report measures.

An additional online survey was posted by the ANA(2001b) on the health and safety of RNs in their workenvironment. A total of 4826 nurses from the USA responded. Quantitative data showed that the respon-dents' major health concern was the acute/chronic effects of stress and overwork (71%) they experienced. A contributing factor reported in the study was the perceived lack of safety in the work environment expe- rienced by 80% of the RNs. Although the study was online and therefore likely reflects a motivated groupof nurses, it did represent a cross-section of nurses from every age group, years of experience, and types ofcare facilities.

Wickett et al.'s (2003) commentary on Janiszewski Goodin's (2003) article relating to the Australian per- spective on the nursing shortage in Australia reported that Australian nurses also experienced additional pressures resulting from increased patient acuity com- bined with shorter hospital stays, similarly reported by Janiszewski Goodin (2003). Wickett et al.'s (2003) commentary noted that the substitution of RNs for unskilled workers as a cost-cutting measure has resulted in an increase in the workload and dissatisfac- tion of RNs, and they are playing a greater supervisory role rather than being direct caregivers. They also argue that removal of the RN from direct care might be a contributing factor to increased job dissatisfaction and therefore exacerbated stress levels (Wickett et al., 2003). Third, professional issues such as the perceived disparity between expectations of standards of care and what they are unable to sustain, and lack of career opportunities have also impacted on the recruitmentand retention of nurses.

Buchanan and Considine (2002) conducted an Aus-tralian qualitative focus group study and found that the increased turnover and acuity of patients without adjusting staffing levels was a great source of stress for RNs. Other stressors identified by the study included:greater responsibility and roles; performing dutiesother than their speciality due to lack of staff; new technologies and teaching others to use them; and increased workload due to greater requirements of record-keeping and data collection. These factors have resulted in the nature of nursing being more stressful, less satisfying and less rewarding. Many nurses felt thatthese demands made them less able to cope with theirrole, leading to increased staff turnover and intention to leave. These findings support other Australian sur- vey research previously conducted (Healy & McKay,2000) that also found work overload to be a major source of stress for nurses. The sample were 129 RNs who volunteered to answer five standardized question- naires as well as open-ended questions. Generalizabil- ity of the findings is limited by the moderate sample size and self-report nature of the study.

AGE AND ROLE STRESS

In addition to the problems of undersupply of nursing staff, the nursing population is experiencing an increas- ing average age, with an average age of 44 years in the USA, and forecast to have more than 40% older than50 years in 10 years time (Janiszewski Goodin, 2003). The average age is similar in Australia and the UK(Mullen, 2003; Wickett et al., 2003). The implications ofthis are that most experienced nurses, mainly middle- aged women, will be leaving the profession at a time when supply is at its lowest (Janiszewski Goodin, 2003).

Santos et al. (2003) conducted a research study by administering the Occupational Stress Inventory- Revised Edition (OSI-R) to 694 nurses from four hos- pitals in the USA to determine the influence of age on the following aspects of role stress: job role overload, role insufficiency, role ambiguity, role boundary, responsibility, and physical environment. The OSI-R also assesses four types of personal strain: vocational, psychological, interpersonal and physical. The re- searchers conducted

focus groups to clarify findings of the survey. The greatest problems identified were the physical demands and responsibility of inpatient nurs- ing. Role boundary and role overload were key typesof stress-inducing roles. Because of increased patient acuity and early discharge, the physical impact of treat- ing sicker patients who require more intense care and treatments is magnified. All of the issues identified seemed to be amplified for the 'baby boomer' genera- tion of RNs (those born between 1946 and 1964). Implications of these findings are discussed below in Strategies to reduce role stress. The findings of this study are limited by the fact that data were collected from only one region and the voluntary nature of participa- tion, leading to possible self-selection bias.

Results of a recent quantitative Japanese study of workplace stressors in hospital nurses (Lambert et al.,2004) differed to the research findings above. Role stress was defined as per the current article. The authors found that older age and more years worked as a nurse were negatively related to the stressors of workload, death/dying, inadequate preparation and uncertainty about treatment. These findings may be explained in terms of differing practices in Japan com-pared with Western nursing. In Japan, the younger, less experienced members of the workforce tend to beassigned an extra workload and more unpleasant aspects of nursing (Lambert et al., 2004). This study found that older nurses tended to distance themselvesfrom others in order to cope with work stressors. The researchers also found a significant positive correlation between the likelihood of leaving the current nursing position and workplace stressors, workload, conflict with physicians, conflict with other nurses, lack of sup- port, inadequate preparation and uncertainty about treatment. However, it is questionable whether the findings can be extrapolated beyond Japanese culture.The study findings are further limited by the large num-ber of correlations used in this study that reduce sta- tistical power.

ROLE STRESS AND NEW GRADUATES

Given the increased average age of the RN and the issues related to retention of the existing workforce, the sustainability of our workforce is in jeopardy. Forour 'young' to be already exposed to such role stress indicates little resolution of the underlying issues. In addition to the previously mentioned stresses experi- enced by RNs, the new graduate has other pressures tocontend with simultaneously. These may include a lack of confidence, unrealistic expectations by clinical staff, role conflict and role ambiguity, value conflicts, and lack of support (Kelly, 1998). Chang and Hancock's (2003) research study on role stress (defined as per thecurrent article) among new graduates found that they experienced significant role ambiguity that was related to their job dissatisfaction over their initial 12 months.Transition to their new role as a RN was associated with a lack of clear and consistent information about the role. Additionally, conflicting role expectations were demanded of them. However, the findings of this study are limited by the sole reliance on self-report measures and only apply to new graduates.

ROLE STRESS AND MODES OFORGANIZING WORK

The recurrent or unresolved problem of the need to retain qualified and experienced nurses highlights theneed to study various aspects of nurses' work and envi- ronment, in which those factors affecting job satisfac-tion and aspects which contribute to the delivery of quality of care are exposed and acted upon. Makinen et al. (2003) conducted a research study investigating the relationship between modes of organizing nursingwork and stressful characteristics of work. In hospitalsettings the three main modes of organizing nursing work are functional nursing, team nursing and primary nursing. Functional nursing is task-oriented with ward routine

rather than individual patient needs being the priority (Makinen et al., 2003) Team nursing involves carrying out sets of activities in teams, while primary nursing involves patients being allocated to individual nurses (Makinen et al., 2003). However, nurses do notalways work according to these three modes (Makinenet al., 2003). Modular nursing is another category, which is a modification of both team and primary nurs- ing. Stressful job characteristics were measured by the Occupational Stressor Questionnaire (Kivimaki &Lindstrom, 1995). This includes aspects such as workoverload, high responsibility, and problems in interper- sonal relations. The study found that the organization of nursing care was not strongly associated with stress- ful job characteristics. Interpersonal relationship prob- lems such as communication problems among staff were less likely when patient-focused nursing modes were used, with this mode possibly reducing role ambi- guity (Makinen et al., 2003). Nursing modes that pro- vided opportunities for writing nursing notes were related to lower stress. The limitations of this study are that the findings cannot be generalized beyond medical and surgical wards to other specialties.

VIOLENCE

An emerging issue increasingly regarded as a source of role stress in nurses is violence. Nurses may receive violent acts from patients, relatives, other nurses and other professional groups (Jackson et al., 2002). Inter- national studies reported on from the USA (Kaye, 1996; Dalphond et al., 2000; Erickson & Williams- Evans, 2000), Sweden (ArnetZ & Arnetz, 2000), and Australia (Fisher et al., 1995; Farrell, 1999; O'Connell et al., 2000) indicate that violence and harassment in the workplace are significant problems being con- fronted by nurses daily. Subsequently, nurses are reportedly at greater risk of assault in the workplace than other health professionals (Carter, 2000). Jackson et al. (2002), in their review of workplace violence and nurses, argue that the potential to be exposed to such aggression results in anxiety at work and may berelated to sick leave, burnout and poor recruitment andretention rates. In their discussion paper, Wickett et al. (2003) argue that an increase in behavioral problems in Australian society is reflected in rising admissions ofsuch individuals to the acute care setting. For instance, nurses are often involved in dealing with victims and perpetrators of violence (Jackson et al., 2002).

It was once the norm that acute hospitalizationwould entail a week's hospital stay, with patients highly dependent on nurses for care. Modern nursing care is more limited and patients are encouraged to be inde- pendent soon after treatment interventions. However,Wickett et al. (2003) discuss how some patients have the expectation that nurses should be providing all of their care, which can result in physical and verbal vio- lence due to the mismatch in expectation. This situa- tion adds to the role stress experienced by nurses and is one factor purported to be related to nurses leaving theprofession (Wickett et al., 2003). The Royal College of Nursing (RCN) found similar issues to those in 1998 for nurses leaving the profession, but with the addi- tional reasons of bullying and violence at work (RCN,2000).

STRATEGIES TO REDUCE ROLE STRESS

Previous studies on role stress in nursing suggest thata range of strategies could be implemented to assist nurses with this experience. A qualitative study using grounded theory methodology found that the stress experienced by perioperative nurse managers was reduced through the use of hospital resources and peersupport,

referring to postmanagement education and information obtained from attending conferences (Schroeder & Worrall-Carter, 2002). In addition, they used team-building strategies, balanced priorities and engaged in social activities. While the generalizability of these findings are limited by their qualitative nature, further evidence that social support may assist in cop- ing with role stress comes from research by Garrett and McDaniel (2001) who used a cross-sectional survey and found that the social climate of the workplace was negatively associated with burnout. They suggest that 'social networks are important during times of change and uncertainty in the work environment: a supportive workplace can protect against burnout.' (p. 2). Others have concluded from their research that burnout may be prevented by fostering social relations in the orga-nization (Janssen et al., 1999).

Flexibility in work hours may reduce role stress. Traditionally, nursing was seen as a vocation and women did not combine this career with parenting. Today, however, nursing remains a predominantly female workforce, but with many having dependant children. One of the major personal issues identified in Australia as influencing nursing retention is the lack of a 'family friendly' workplace. The strain of participat- ing in a 7 day per week/24 h coverage roster reduces the resources available for nurses to cope with the demands of family roles. A research study of female nurses, combining partner and parent roles while work- ing a rotating-shift roster, found that the interaction between work and family roles resulted in chronic fatigue that was a risk factor, especially when com- bined with the acute fatigue associated with shiftwork (Clissold et al., 2002). The researchers concluded that the need for flexible rostering is paramount in the retention of nurses. In terms of dealing with violence, Jackson et al. (2002) suggest that 'effective protocols are needed to deal with bullying and abuse of power by nurses and others that are aimed at supporting nursing personnel' (p. 19). They recommend that both employ- ers and educational institutions ensure nurses are pre-pared to deal with acts of violence as they arise, and that employers demonstrate that they are committed to ensuring the safety of nurses. They believe that nurses need to feel that they are supported by their employer when reporting incidents of violence against them. However, evidence for the efficacy of these strat-egies is needed.

Concerning new graduates, Chang and Hancock (2003) recommend from their research findings that nurse unit managers (NUMs) should not only assess the impact of levels of role conflict and ambiguity on nurses' adjustment to their role, but the impact of these factors on new graduates' working environment. Adjustment could also be enhanced by the NUMs specifying the roles of the neophyte to both the indi- vidual and other staff. Recruitment, retention and facilitation of transition for new graduates can be enhanced by orientation, preceptorship and/or men- toring programs (Allanach & Jennings, 1990; Anders-son, 1993; Boyle et al., 1996; Brans, 1997; Oermann & Moffitt-Wolf, 1997; Prebble & McDonald, 1997). Greenwood (2000) reported that factors such as formal unit orientation programs; a unit 'climate' of open communication; preceptor programs; the timely provi- sion of constructive feedback; assignment congruence (tasks commensurate with competence) participative, democratic governance; appropriate advice and guid- ance from senior staff; and continuing staff develop- ment opportunities greatly assists new graduates in their experience of role stress and ambiguity. However, evidence for the relevance and appropriateness needs to be undertaken to inform practice. A review of the literature on stress management interventions in men- tal health nurses conducted by Edwards and Burnard (2003), that included research from 1966 to 2000, sug- gested that the most effective way to manage stress is a multilevel approach. First, to minimize or eliminate the stressors themselves, the organizational environment must be proactive rather than reactive in its manage- ment strategies. Due to the lack of research on the effectiveness of interventions it is difficult, however, to determine which specific techniques are the most effec-tive. A second step

is to use stress education and man- agement strategies to reduce the negative effects of stress. Lastly, those who are experiencing the effects of stress should be assisted. Differing use of methodolo-gies, tools and evaluation of different interventions, however, makes it difficult to compare the studies and generalize findings.

Although Edwards and Burnard (2003) looked spe-cifically at mental health and stress rather than rolestress specifically, these recommendations are transfer-able to the context of role stress/strain being experi-enced in a general, hospital setting. To address theproblem of an increasingly aging workforce and the finding that baby boomers experienced greater rolestress (Santos et al., 2003), one possible strategy is toremove the mandatory age of retirement and encour-age nurses to continue pursuing further study to pre-vent a drain of experience from the workforce. Newand innovative work practices are needed to supportthe special needs of nurses in the older age bracket.These ideas, however, need to be tested for their utility.Workload is a dominant factor arising from this review as being related to role stress and strain. Giventhat Healy and McKay (2000) found that work stress,as measured by the Nursing Stress Scale (Gray-Toft &Anderson, 1981), was the strongest predictor of mooddisturbance in nurses in their research study, along withthe findings of other researchers (ANA, 2001a, 2001b;Buchanan & Considine 2002; Janiszewski Goodin,2003), interventions aimed at reducing the impact ofenvironmental stressors such as workload and staffingare recommended to decrease their stress levels andencourage retention of staff. Janssen et al. (1999) alsosuggest that emotional exhaustion can be reduced bypaying attention to workload. For instance, apart fromemploying more staff, workload can be spread moreequally among units, or roster duty techniques can beapplied so that there is a more adequate spread ofactivities during a certain timespan. Wickett et al. (2003) suggest that nurses need to be better preparedto work in an environment of increasingly sickerpatients with greater turnover. Again, however, these suggestions need to be tested for their impact.

Research has found a relationship between work motivation and work content (Janssen et al., 1999). Asuggested strategy arising from this finding is to make elements of the job more challenging and worthwhile through varying tasks, providing more opportunities for autonomy and timely feedback. Job posting, job rotation, career counselling, career development and more comprehensive integrated human resource man-agement programs can also assist with increasing work motivation, and thereby reducing the negative impactof role stress.

A recent theoretical article published by Lambert et al. (2003) presented strategies that could be used inthe health care environment to enhance the three com-ponents of psychological hardiness (commitment, con-trol and challenge), and thereby reduce the experienceof stress in the workplace. Lambert et al. (2003) suggest that building commitment (defined as a sense of pur-pose and meaning expressed through active involve-ment in life's events [Lambert et al., 2003]) may be achieved through the following strategies: revising andrehearsing what you would do the next time the spe-cific stressful event occurs; express yourself directly tothe involved person(s); and rework the situation inyour mind. Building control (tendency for the personto believe and act in a way that influences life's events rather than feeling helpless when confronted withadversity (Lambert et al., 2003) can be enhanced byseeking more information about the situation; trying toreduce stress (e.g. physical activity); trying to lighten or brighten the environment; or searching for a philo-sophical and/or spiritual meaning in the stressful expe-rience. Building challenge (belief that change, insteadof stability, is normal in life rather than a threat to secu- rity (Lambert et al., 2003), can be enhanced by use of

interpersonal skills; searching for ways to keep a senseof perspective about the situation; broaden the rangeof influence and concern beyond the specific work situation; and cultivate an objective, intellectual attitude.Although the framework of psychological hardinesscan be applied to role stress in nursing, it needs further empirical testing in terms of stress reduction outcomes.

In their research study of Japanese nurses, Lambertet al. (2004) found that there was a positive correlation between physical and mental health. Although causal relationships cannot be demonstrated, their findings lend support for the hypothesis that an increase in workload affects the physical well-being of nurses. They also found that lack of support and the use of escape-avoidance as coping mechanisms were nothelpful in terms of maintenance of mental health. This research suggests that contending with stressful eventsrather than avoiding them and the provision of support within the workplace are important ways of enhancing mental health and therefore coping with role stress.

The obvious strategy of reducing workload by employing more nursing staff is a stop-gap measure lacking sustainability due to the inadequate numbers of staff available to recruit from initially. As mentioned previously in this review, there exists a chronic short-age of nursing staff available to be recruited. Therefore this strategy is no longer considered a long-term resolution to the identified issue. Janiszewski Goodin(2003) proposes several strategies based on her reviewof the literature to increase retention and attract nursesto the workforce. These include improving personnel policies and benefits, career advancement opportun- ities, lifelong learning, flexible scheduling of work, andpay levels not fixed but commensurate with levels of preparation, experience, responsibility and perfor- mance. Janiszewski Goodin (2003) argues that 'only when the labor markets begin to respond to the imbal-ances of supply and demand in the nursing workforcewill overall improvements in RN wages be seen'(p. 340).

Although the state of nursing role stress and the undersupply of the workforce in Australia reflectsthose of the USA, there are some signs of a turn- around. Nursing shortages are a significant problem in Australia, yet last year there was a sharp increase in the number of enrollments into Australian undergraduate nursing programs (Wickett et al., 2003). Wickett et al. (2003) attribute this to 'the concerted and collective efforts that have been made by the nursing professionin our country, and through government-funded media programmes, to recruit students into nursing programmes and to raise the profile of nursing in the widercommunity' (p. 344). Whether or not retention of these numbers can be maintained postgraduation, is yet to be determined.

CONCLUSION AND RECOMMENDATIONSFOR FUTURE RESEARCH

This review has identified multiple factors related to the experience of role stress in nurses. Role stress, in particular, work overload, has been reported as one ofthe main reasons for nurses leaving the workforce. It is therefore a priority to not only reduce workload by attracting more nursing staff into the workforce, but to find new and innovative ways of supporting nurses intheir experience of role stress. Some examples dis- cussed in this article include use of stress education andmanagement strategies to reduce the negative effects of stress; use of team-building strategies, balancing pri- orities, enhancing social support through engaging insocial activities and peer support; flexibility in work hours; protocols to deal with violence; strategies to build commitment, control and challenge in the work-place; making elements of the job more challenging and worthwhile through varying tasks, providing more opportunities for autonomy and timely feedback; removing the mandatory age of retirement and encour-aging nurses to continue pursuing further study to prevent a drain of experience from the workforce; increase nursing

enrollments and use of strategies to attract nurses to the workforce. The next step is to empirically evaluate the efficacy of these strategies inreducing role stress in nurses.

One of the problems in comparing research on rolestress/strain in nurses is the heterogeneity in the mea-sures and methods used, making it difficult to compare findings. Furthermore, most studies rely on self-report measures only. It is recommended that cross-cultural research comparing the experience of role stress in var- ious countries using the same methods and measures be conducted. The authors are part of an internationalresearch team currently participating in such research.The research will enable an investigation of demo- graphic, workplace stressors and coping mechanisms used as determinants of physical and mental health, similar to that performed by Lambert et al. (2004). This will assist in determining whether different countries are grappling with similar problems with regard to role stress, and whether differences lie in the levels of inten- sity or importance of various contributing factors. The study will also assist in predicting which ways of coping with role stress are most adaptive for RNs from an international perspective and specifically for each country studied.

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