

The effect of stress on health and its implications for nursing.

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Abstract

Stress is an important issue within nursing and it is difficult to find agreement among those who are expert in the area regarding a concise definition of stress. Nevertheless stress is seen as a negative feeling affecting people's health either physically and/or psychologically. However, stress is a normal part of life and considered necessary to increase functional capacity, whereas stress over a prolonged period or when extreme can cause distress which may have debilitating effects that reduce work output, increase absenteeism and reduce one's ability to cope with situations. The most important resource in any organisation is the employee; therefore maintaining and supporting their health is vital to ensure their ability to work, maintain standards and continuously improve standards of care. Leadership styles within organisations must facilitate staff to be involved in decision making; thereby staff feel more valued and work in an autonomous way. This article identifies and discusses the effect of stress on health and its relationship to nursing.

Key words: Health, Nursing, Psychological, Physical, Stress.

Introduction

There are various definitions of stress offered in literature and these highlight that everybody perceives stress differently and may react to the demands of stress in their own individual way. Some examples within the literature consider stress as: an association between individuals and the work place which may be perceived as damaging and destructive (Lazarus and Folkman, 1984); a pattern of psychological, behavioural, emotional and cognitive responses to real or imagined stimuli that are perceived as preventing a goal, endangering or otherwise threatening wellbeing (Carlson et al, 2006); a state accompanied by physical, psychological or social complaints or dysfunctions and results from individuals feeling unable to bridge a gap with the requirements or expectations placed on them (Labour Relations Commission, 2007). Seyle (1976) differentiates between two types of stress - eustress and distress. Eustress is seen as a positive response to the environment that facilitates growth, which Nuikka et al (2001) suggest can enhance and promote an individual's ability to work and increases their functional capacity. When the leadership style within an organisation allows staff to be involved in the decision making process of the organisation, staff feel more valued and work in an autonomous way, which is conducive to eustress. Doody and Doody (2012) identify transformational leadership as been effective in enabling staff to become more involved and valued within their work. A certain amount of stress can motivate, empower and enthuse staff, thereby enhancing the caring process. However, if this stress is persistent, intense or repeated, and the individual becomes unable to cope, it may become distress (Dowell et al, 2000) which is a negative response to the environment resulting

in physical and psychological maladaptation (Seyle, 1976). As stress is a factor or set of conditions that the individual must cope with (Keil, 2004), it is typically ascribed with negative connotations and is generally seen as a negative, harmful and undesirable phenomenon (Helman, 2001). Stress that occurs in an individual's place of work is seen as occupational stress and is closely associated with absenteeism, illness and staff turnover (Edwards et al, 2003). When the demands placed on the individual exceed their ability to cope, a stress response may be triggered (Clancy and McVicar, 2002). As a result, the person moves along a continuum from feelings of eustress to moderate or severe distress (Bartlett, 1998). However, it must be recognised that stress does not always trigger psychological distress, which arises only when imposed demands are perceived to exceed ability to cope.

It is important to recognise that stress is a state and not an illness. Stress may be experienced as a result of an exposure to a wide range of work demands and which can contribute to an equally wide range of outcomes, which may concern the employee's health and be an illness or an injury, or changes in their behaviour and lifestyle (Moustaka and Constantinidis, 2010). As an occupation, nursing has a collection of circumstances leading to stress, including a highly demanding job with poor support, rapidly changing circumstances, shortage of resources and staff, and dealing with death and dying (Chang et al, 2005). These factors are inherent in nursing and are compounded by environmental factors such as difficult patients and their families, relationships with physicians, low institutional commitment to nursing and the delivery of poor quality care (Chang et al, 2005). In addition, responsibilities, such as the need to undertake continuing professional development and part-time education (Timmins and Nicholl, 2005; Watson et al, 2009) and the emotional nature of the job (Mann and Cowburn, 2005), contribute to interactive stress and to the daily stress of nurses' work. However, in reality, too few nurses describe their work as heavy, overwhelming, busy and exhausting (Geiger-Brown et al, 2004), so current stress figures may be under representative of the actual daily reality of nurses.

Effects of stress on health

Stress affects people in different ways and is recognised as a cause of physical and psychological ill health (Ortqvist and Wincent, 2008). Occupational stress can cause unusual and dysfunctional behaviour at work and contribute to poor physical and mental health. In the short-term, it may lead to a variety of disorders and illnesses from chronic fatigue to depression (Kivimäki et al, 2002). In extreme cases, long-term stress or traumatic events at work may lead to psychological problems and be conducive to psychiatric disorders resulting in absence from work and preventing the worker from being able to work again (McFarlane, 2010). Some people who experience stress may engage in unhealthy practices such as; smoking, excessive drinking, poor diet and little exercise (Ortqvist and Wincent, 2008). They may become distressed, irritable, enjoy their work less, feel less committed to work, have difficulty thinking logically or making decisions (Kivimäki et al, 2002; Marine and Serra, 2006). Generally we view stress as having either psychological and/or physiological reactions that affect health.

Psychological reactions to stress

Stress produces emotional reactions ranging from exhilaration, when an event is stressful but manageable, to anxiety, anger, discouragement and depression when an event appears to be unmanageable (McVicar, 2003). Continuous stressful situations may trigger a variety of emotional responses dependent on the success of the individual's coping efforts. Portman (2009) characterises anxiety as: worry, apprehension, tension and fear, which may be manifested by the feeling of numbness, lack of interest in former activities and a sense of estrangement from others. Cognitive impairment may be an initial sign of stress; here the individual finds it hard to concentrate or organise thoughts logically or may be easily distracted, which may lead to deterioration in work quality (Gelsema et al, 2006). The symptoms of psychological stress include: reliving of the trauma repeatedly, either in memories or dreams, leading to sleep disturbance; displaced anger or aggression toward an innocent person or object rather than toward the object of their frustration. McFarlane (2010) suggests that if the stressful situation persists this apathy may deepen into depression. Stress may also affect the wellbeing of the nurse with a positive correlation between stress and mood disturbance (Healy and McKay, 2000) with common effects including: anxiety and irritability, depression and mood swings (Wiegand and Funk, 2012).

McGrath et al (2003) explored stress in nursing, the effects of stress, views on nursing and coping strategies. Their results demonstrated that nurses expressed dissatisfaction regarding lack of autonomy and practised an avoidance of the emotional demands of nursing, suggesting that this is a coping mechanism to reduce stress and termed 'avoidance behaviours'. It also emerged that improved relationships with other professionals and greater support within the nursing arena have had a beneficial effect on alleviating and preventing stress for nurses. One method of coping, as indicated, was avoidance, which may result in a loss of the caring element of nursing by giving only a clinical response to those in their care. Stress can have a significant impact on individual nurses and their ability to accomplish tasks. More specifically, poor decision making, lack of concentration, apathy, decreased motivation and anxiety may impair job performance, creating uncharacteristic errors (Jones et al, 2003). All of which can directly contribute towards absenteeism, decreased work performance, and ultimately, burnout. This fact is also supported by Jenkins and Elliott (2004) who uncovered a correlation between emotional exhaustion, depersonalisation and avoidance. Respondents who scored highly on stress scores scales (Mental Health Professionals Stress Scale, Maslach Burnout Inventory and House and Wells Social Support Scale) were more likely to demonstrate higher levels of depersonalisation (Jenkins and Elliott, 2004). These results would have a negative effect within the relationship developed between the nurse and patient where the nurse has a role to advocate on behalf of the individual where necessary. Thereby as advocacy is considered to be an essential element in the professional nursing role, nurses should receive ongoing training to ensure it is used effectively to enhance the lives of people (Llewellyn and Northway, 2007).

Physiological reactions to stress

Physiological responses refer to the internal responses within the body that regulate physiological processes in an optimal way to adapt to the demands of the work environment (Gaillard and Kramer, 2000). While the capacity for performing a job is

determined primarily by cardiovascular, pulmonary, nervous, musculoskeletal, endocrinal and other regulating body systems, both individual intrinsic characteristics (e.g. age, sex, body fitness, health conditions) and work-related factors (e.g. workload intensity, shift duration, nature of the work) can modify physiological functions and work performance (Astrand et al, 2003). The effects of work-related stress detract from the quality of nurses' working lives, and may contribute to some forms of physical illness (Cox et al, 1996). Stress causes the body to respond innately by initiating a complex sequence of events. The fight or flight response causes the body's metabolism to increase in preparation for expending energy on physical action, thereby curtailing unessential activities such as digestion, saliva and mucous production which over a long period can be harmful. The short-term symptoms of stress include headaches, muscular tension, chest pains, indigestion, palpitations, disturbed sleep and increased susceptibility to respiratory infections (Blaug et al, 2007).

However, stress may also have beneficial effects as it can create an emotional toughness leading to greater stress tolerance causing the person to be less fearful and lead to a quicker return to normal levels of stress hormone (McEwan, 2009). Stress plays an important role in more than half of presenting medical problems as it may exacerbate existing medical issues (McFarlane, 2010) which are known as psychophysiological disorders, and are a result of altruistic overload, where life circumstances produce a chronic stress which over time leads to wear and tear on the body leading to illness (McEwan, 2009). The long-term over arousal of the sympathetic system and the adrenocortical system can cause damage to arteries and organs. Coronary heart disease is a leading cause of death and chronic illness. People in high-stress jobs are at increased risk of this disorder, particularly those who are in jobs that are highly demanding in terms of workload, responsibilities and role conflicts, but have little control over the speed, nature or conditions of work (Cohen et al, 2007; McEwan, 2009).

When stressed, one may engage in behaviours that undermine the body's attempt to fight illness, such as frequent colds and headaches associated with stress, by taking a poor diet, cessation of normal exercise routines, becoming sedentary and having a poor sleeping routine. Malone (2004) demonstrated that stress can lead to drug and alcohol abuse, eating disorders, sleep disorders, which may result in absenteeism or job loss. High levels of work demands are congruent with fatigue and stress, which if not recognised, acknowledged and adequately dealt with, may result in burnout (Hardy et al, 1997). These studies serve to illustrate the individual causes and effects of stress within the nursing profession generally. While each nurse involved in the care of patients is an individual, he/she is also part of a social support network, which when combined has a direct and positive outcome on occupational stress. A strong negative relation between nurses' occupational stress and job satisfaction has been found. This is a concern as growing occupational stress results in increased turnover, which causes more and more nurses to leave the nursing profession (Shader et al, 2001; Moustaka et al, 2009). Occupational stress and its consequences on nurses' behaviour can create mental problems such as anxiety, depression, insomnia and feelings of inadequacy (Wong et al, 2001).

Conclusion

It must be acknowledged that it is difficult to find agreement among those who are expert in the area regarding a concise definition of stress. Nonetheless, most people regard stress as a negative feeling that affects people either physically and psychologically or both if undetected or untreated. However, stress is a part of life and is considered necessary to increase functional capacity, whereas distress may have a debilitating effect that reduces work output, may increase absenteeism and reduce the person's ability to cope with situations. While tolerance levels and responses to stress vary from person to person, interventions introduced should reduce the stress source and then reduce the person-stressor interaction and finally give protection to the exposed person. Occupational stress is an important issue within nursing and while various researchers have attempted to determine the factors that impact on staff stress, it is also essential that nurses' working conditions are evaluated and also that their perceptions of their working conditions are analysed.

The most important resource in any organisation is the employee; therefore maintaining and supporting employees' health is vital to ensuring their ability to work, maintain standards and continuously improve standards of care (Holden et al, 2011). In the current economic climate, with a decreased staff-to-patient ratio, non-recruitment and staff embargo directives in place, there is a higher demand on nursing staff and a greater risk of stress. Given the effects on the individual and on health service delivery, such as absenteeism, there is a continual need to be aware of these issues and for organisations and managers to address these in a proactive manner. With this in mind National Institute of Health and Care Excellence (NICE) (2009) issued guidance for employers in supporting mental wellbeing as stress and stress-related conditions are the second most commonly reported issues of ill-health, with health professionals having among the highest reported levels of stress (D'mello, 2011). It is for these reasons that stress and its causative factors need to be taken seriously by employers as stress impacts adversely on an organisation in the form of low staff morale, absenteeism, human error and a negative image of the organization (Health and Safety Executive (HSE), 2007). The NICE (2009) guidelines promote employers to consider strategic and coordinated approach to promoting employees' mental wellbeing; assessing opportunities for promoting employees' mental wellbeing and managing risks; flexible working practices; and the role of line managers.

High levels of perceived social support reduce the sense of stress at work and enhance the sense of health as social support impact on both job stress perception and health status (Oginska-Bulik, 2005). The effects of stress are well documented, but while the physiological signs may be apparent the psychological ones may not be so obvious and by having an awareness of the possible signs one may begin to work toward alleviating potential problems (Cooper, 2004). The reality in today's healthcare institutions is that they differ in size and nature, and nurses are confronted with different work tasks, working hours, work shifts, working conditions, understaffing, stress-related situations, suffering patients and the deaths of patients. The American Nurses Association (2005) advises healthcare providers that nurses work-health should be evaluated periodically for the consideration of staffing adequacy. However, little empirical data are available on the

physiological impact of current workload on nurses during daily shifts. Identifying whether workloads exceed the physiological limits is imperative to the determination of workload allocation and shift scheduling (Saha et al, 2008). Furthermore, there are increasing concerns regarding the negative effects of twelve hour shifts upon nurses' wellbeing and work performance (Trinkoff et al, 2006; Keller, 2009; Geiger-Brown and Trinkoff, 2010). In addition, it is recognised that there is an ageing workforce and some studies state that high work pace, demanding physical workload and personal health conditions were the major work challenges for older nurses (Andrews et al, 2005; Chiu et al, 2007; Cameron et al, 2009) and older nurses favour working 8-hour rather than 12-hour shifts (Hoffman and Scott, 2003; Trinkoff et al, 2006).

Addressing these issues in nursing practice will involve employers acknowledging their responsibility and mandating work-rest schedules be instituted into healthcare facilities, as self-regulation fails to provide sufficient breaks to guard against physiological strain. Shift nurses who have family care-giving responsibilities at home should be encouraged to avoid working consecutive 12-hour shifts and a special focus is required to concentrate on limiting the physical and psychological workloads that may significantly increase physiological strain on ageing nurses. To promote wellbeing among older staff nurses, nurse managers may consider providing flexible shift hours, ergonomic modifications, wellness programmes, and transferring older nurses from bedside nursing to mentoring younger nurses (The Lewin Group, 2009).

Key points

- Occupational stress is an important issue in nursing as stress-related conditions are the second most commonly reported issues of ill-health.
- Stress increases functional capacity. However, prolonged or extreme stress reduces work output, ability to cope with situations and increases absenteeism.
- Employers need to promote and assess employees' mental wellbeing to ensure their ability to work, maintain standards and continuously improve standards of care.

Conflict of interest: None

References

- American Nurses Association (2005) Utilization guide for the ANA principles for nurse staffing. <http://tinyurl.com/lonzx3f> (accessed 12 August 2013).
- Andrews J, Manthorpe J, Watson R (2005) Employment transitions for older nurses: a qualitative study. *J Adv Nurs* **51**(3): 298-306.
- Astrand PO, Rodahl K, Dahl HA, Stromme SB (2003) Applied work physiology. In: Astrand PO, Rodahl K, Dahl HA, Stromme SB. *Textbook of work physiology: Physiological bases of exercise*. 4th edn. Human Kinetics, Champaign: 503-540.
- Bartlett D (1998) *Stress: Perspectives and Processes*. Open University Press, Buckingham.
- Blaug R, Kenyon A, Lekhi R (2007) Stress at work: A report prepared for The Work Foundation's Principal Partners. <http://tinyurl.com/kqcp867> (accessed 12 August 2013).

- Cameron SJ, Armstrong-Stassen M, Kane D, Moro FB (2009) Musculoskeletal problems experienced by older nurses in hospital settings. *Nurs Forum* **43**(2): 103-114.
- Carlson JG, Burke R, Ronald J (2006) Introduction to stress. *International Journal of Stress Management* **13**(4): 395-398.
- Chang EM, Hancock KM, Johnson A, Daly J, Jackson D (2005) Role stress in nurses: review of related factors and strategies for moving forward. *Nurs Health Sci* **7**(1): 57-65.
- Chiu MC, Wang MJ, Lu CW, Pan SM, Kumashiro M, Ilmarinen J (2007) Evaluating work ability and quality of life for clinical nurses in Taiwan. *Nurs Outlook* **55**(6): 318-326.
- Clancy J, McVicar A (2002) *Physiology and Anatomy: A Homeostatic Approach*. 2nd edn. Arnold, London.
- Cohen S, Janicki-Deverts D, Miller GE (2007) Psychological stress and disease. *JAMA* **298**(14): 1685-1687.
- Cooper C (2004) *Handbook of Stress Medicine and Health*. 2nd edn. CRC Press, Florida.
- Cox T, Griffiths A, Cox S (1996) Work-related stress in nursing: Controlling the risk to health. <http://tinyurl.com/lqhdxxr> (accessed 12 August 2013).
- D'mello S (2011) Stress: the global economic downturn has taken its toll on employees: What's the impact for organizations? <http://tinyurl.com/n3glf15> (accessed 12 August 2013).
- Doody O, Doody CM (2012) Transformational leadership in nursing practice. *Br J Nurs* **21**(20): 1212-1214, 1217-1218.
- Dowell AC, McLeod M, Hamilton S (2000) Job satisfaction, psychological morbidity and job stress among New Zealand general practitioners. *N Z Med J* **113**(1113): 269-272.
- Edwards D, Burnard P, Coyle D, Fothergill A, Hannigan B (2003) Stressors, moderators and stress outcomes: Finding from all Wales Community Mental Health Nurse Study. *J Psychiatr Ment Health Nurs* **7**(6): 529-537.
- Gaillard AW, Kramer AF (2000) Theoretical and methodological issues in psychophysiological research. In: Backs RW, Boucsein W, eds. *Engineering Psychophysiology: Issues and Applications*. Lawrence Erlbaum Associates, Mahwah: 31-54.
- Geiger-Brown J, Trinkoff AM (2010) Is It time to pull the plug on 12-hour shifts: Part 1. The evidence *J Nurs Admin* **40**(3): 100-102.
- Geiger-Brown J, Trinkoff A.M, Nielsen K, Lirtmunlikaporn S, Brady B, Vasquez EI (2004) Nurses perception of their work environment, health, and wellbeing: A qualitative perspective. *AAOHN J* **52**(1): 16-22.
- Gelsema TJ, Van Der Doef M, Maes S, Janssen M, Akerboom S, Verhoeven C (2006) A longitudinal study of job stress in the nursing profession: causes and consequences. *J Nurs Manag* **14**(4): 289-299.
- Hardy GE, Shapiro DA, Borrill CS (1997) Fatigue in the workforce of the National Trust: Levels of symptomatology and links with minor psychiatric disorders, demographic occupation and work role factors. *J Psychosom Res* **43**(1): 83-92.
- Health Service Executive (2007) HSE to exceed target levels for 2007 despite budgetary pressures. <http://tinyurl.com/kr9bjyh> (accessed 12 August 2013).
- Healy C, McKay M (2000) Nursing stress: the effects of coping strategies and job satisfaction in a sample of Australian nurses. *J Adv Nurs* **31**(3): 681-688.

Helman C (2001) *Culture, Health and Illness*. Butterworth-Heinemann, Oxford

Hoffman AJ, Scott LD (2003) Role stress and career satisfaction among registered nurses by work shift patterns. *J Nurs Adm* **33**(6): 337-342.

Holden RJ, Scanlon MC, Patel NR, Kaushal R, Hamilton Escoto K, Brown RL, Alper SJ, Arnold JM, Shalaby TM, Murkowski K, Karsh BT (2011) A human factors framework and study of the effect of nursing workload on patient safety and employee quality of working life. *BMJ Qual Saf* **20**(1):15-24.

Jenkins R, Elliott P (2004) Stressors, burnout and social support: nurses in acute mental health settings. *J Adv Nurs* **48**(6): 622-231.

Jones D, Tanigawa T, Weisse S (2003) Stress management and workplace disability in the US. *J Occup Health* **45**(1): 1-7.

Keil R (2004) Coping and stress: a conceptual analysis. *J Adv Nurs* **45**(6): 659-665.

Keller SM (2009) Effects of extended work shifts and shift work on patient safety, productivity, and employee health. *AAOHN J* **57**(12): 497-502.

Kivimäki M, Leino-Arjas P, Luukksen R, Riihimäki H (2002) Work stress and the risk of cardiovascular mortality: Perspective cohort study of industrial employees. *BMJ* **325**: 857-860.

Labour Relations Commission (2007) Labour Relations Commission: Annual report 2007. <http://tinyurl.com/lxml86q> (accessed 12 August 2013).

Lazarus RS, Folkman S (1984) *Stress, Appraisals and Coping*. Springer Press, New York.

Llewellyn P, Northway R (2007) An investigation into the advocacy role of the learning disability nurse. *J Res Nurs* **12**(2): 147-161.

Malone S (2004) *Surviving Stress: A Guide for Managers and Employees*. Oak Tree Press, Cork.

Mann S, Cowburn J (2005) Emotional labour and stress within mental health nursing. *J Psychiatr Ment Health Nurs* **12**(2): 154-162.

Marine A, Serra C (2006) Effectiveness of occupational stress management programmes. The Cochrane Collaboration: John Wiley and Sons.

McEwan BS (2009) The brain is the central organ of stress and adaptation. *Neuroimage* **47**(3): 911-913.

McFarlane AC (2010) The long-term costs of traumatic stress: intertwined physical and psychological consequences. *World Psychiatry* **9**(1): 3-10.

McGrath A, Reid N, Boore J (2003) Occupational stress in nursing. *Int J Nurs Stud* **40**(5): 555-565.

McVicar A (2003) Working place stress in nursing: A literature review. *J Adv Nurs* **46**(6): 633-642.

Moustaka E, Antoniadou F, Maliarou M, Zantzou I, Kyriaki K, Konstantinidis T (2009) Research in occupational stress among nursing staff a comparative study in capital and regional hospitals. *Hellenic Journal of Nursing Studies* **3**(3): 79-84.

Moustaka E, Constantinidis TC (2010) Sources and effects of work-related stress in nursing. *Health Science Journal* **4**(4): 210-216.

National Institute for Health and Care Excellence (NICE) (2009) *Promoting Mental Wellbeing Through Productive and Healthy Working Conditions: Guidance for Employers*. NICE public health guidance 22. <http://tinyurl.com/l2e3dor> (accessed 12 August 2013).

- Nuikka ML, Paynonen M, Hanninen O, Lansimies E (2001) The nurses' workload in care situations. *J Adv Nurs* **33**(3): 406-415.
- Oginska-Bulik N (2005) The role of personal and social resources in preventing adverse health outcomes in employees of uniformed professions. *Int J Occup Med Environ Heal* **18**(3): 233-240.
- Ortqvist D, Wincent J (2008) Prominent consequences of role stress: a metaanalytic review. *Int J Stress Manage* **13**(4): 399-422.
- Portman ME (2009) *Generalized Anxiety Disorder Across the Lifespan: An Integrative Approach*. Springer, New York.
- Saha R, Dey NC, Samanta A, Biswas R (2008) A comparison of cardiac strain among drillers of two different age groups in underground manual coal mines in India. *J Occup Health* **50**(6): 512-520.
- Seyle H (1976) *The Stress of Life*. Rev ed. McGraw-Hill, New York.
- Shader K, Broome ME, Broome CD, West ME, Nash M (2001) Factors influencing satisfaction and anticipated turnover for nurses in an academic medical center. *J Nurs Adm* **31**(4): 210-216.
- The Lewin Group (2009) *Evaluation of the Robert Wood Johnson Wisdom at Work: Retaining Experienced Nurses Research Initiative – Final Report*. <http://tinyurl.com/n5e752g> (accessed 12 August 2013).
- Timmins F, Nicholl H (2005) Stressors associated with qualified nurses undertaking part time degree programmes some implications for nurse managers to consider. *J Nurs Manag* **13**(6): 477-482.
- Trinkoff A, Geiger-Brown J, Brady B, Lipscomb J, Muntaner C (2006) How long and how much are nurses now working. *Am J Nurs* **106**(4): 60-71.
- Watson R, Gardiner E, Hogston R, Gibson H, Stimpson A, Wrate R, Deary I (2009) A longitudinal study of stress and psychological distress in nurses and nursing students. *J Clin Nurs* **18**(2): 270-278.
- Wiegand DL, Funk M (2012) Consequences of clinical situations that cause critical care nurses to experience moral distress. *Nurs Ethics* **19**(4): 479-487.
- Wong D, Leung S, So C, Lam D (2001) Mental health of Chinese nurses in Hong Kong: The roles of nursing stresses and coping strategies. <http://tinyurl.com/lclu9wb> (accessed 12 August 2013).