

Occupational Safety for Nurses

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Occupational hazards have a deleterious effect on the individual's health and safety, as well as organisational effectiveness. The term occupational safety describes a comprehensive concept for the protection of employees from health risks in the workplace, which results from the job-related activity itself and from biological, chemical and physical effects.

Nurses have mastered the art of anticipating and attending to the physical and emotional needs of others. However, nurses tend to forget how to take care of themselves and each other (Scott et al, 2006).

Aspects of Occupational Safety

The occupational safety issues may broadly be studied under two headings viz. physical and psychological aspects.

A. Physical Aspects

Physical aspects of occupational health relate to the occupational environment, and include injuries, accidents, ergonomic problems, physical hazards, chemical substances, communicable diseases and violence in the workplace.

1. Injuries and Accidents

It is the most common physical hazard in the nursing work environment. The injuries and accidents can be

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caused due to many factors:

Needle stick Injuries: These injuries pose physical and emotional threats to health care workers, such as hepatitis B virus, hepatitis C virus, and human immunodeficiency virus i.e. HIV. Occupational Safety and Health Administration (OSHA) USA, has issued a standard on blood-borne pathogens which requires (a) hepatitis B virus vaccination for all health care workers (b) implementation of universal precautions and (c) prevention of dangerous exposure to blood, body fluid by correctly putting on, using, and removing personal protective equipment (PPE) like gloves, mask with goggles, face shield, gown (De Castro, 2005).

Latex Allergy: It is a reaction (skin rash; hives; flushing; itching; nasal, eye, or sinus symptoms; asthma; and shock) to certain proteins in latex rubber when workers change gloves; the protein/powder particles become airborne and can be inhaled. Use non-latex gloves and powder-free gloves with reduced protein content. After removing latex gloves, wash hands with a mild soap and dry thoroughly.

Bladder Health: This problem arises when nurses suppress the desire to void during working hours due to high patient loads, heavy demands, long working days. Maintenance of good bladder health is important and possible through drinking 6-8 glasses of water daily, voiding every 3-4 hourly, attending to the urge to void (bathroom break) and avoiding pressure on bladder (lifting,

bending, awkward position etc.).

Others : Other instances of accidents and injury include - falls, back injuries due to wet floor; bed making, lifting, lack of personal safety equipment leading to hand foot injuries and assaults by patients

2. Ergonomic problems

The chief problem relating to ergonomics in nursing is the musculoskeletal work-related disorders (back injuries, neck, shoulder, arm, wrist and knee disorders). Low back pain is a persistent problem in the population of nurses (Bing Vera, 2004).

3. Physical hazards

Physical factors which have adverse effect on health like heat, cold, humidity, light, noise, vibration, ionising radiation (X-ray, radioactive isotope like cobalt 60, phosphorus 32) and radiation hazards will cause leukaemia, cancer, malformation, sterility, death.

4. Chemical substances

Volatile anaesthetics in OR/OT cause spontaneous abortion, congenital anomalies, carcinoma, hepatic and renal problems. Formalin used in haemodialysis unit can cause inhalational formalin asthma (Park, 2005).

5. Communicable Diseases

National Institute of Occupational Safety and Health (NIOSH) and OSHA recognise that occupational exposures for tuberculosis, SARS, influenza are common among health care workers. Respiratory protection involves preventing exposure to

communicable agents through proper donning, isolation.

6. *Violence in the Workplace* (Lateral violence / interpersonal conflict): It is nurses directing their dissatisfaction toward each other and towards themselves and toward those less powerful than themselves. Griffin Martha taught a special intervention such as the use of cognitive rehearsal technique which involves consciously not responding, or not reacting, and allows individuals' time to process the information based on what they have previously been taught (Martha, 2004).

B. Psychological Aspects

It is now almost universally recognised that nursing is, by its very nature, a stressful occupation (Tom et al, 1996). Stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the worker. Selye (1956) defined stress as a non-specific response of the body to any demand. Job stress has been linked with cardiovascular disease, musculoskeletal disorders, depression, and burnout.

Sources of Stress

McVicar (2003) reviewed literature and identified shift working, lack of reward, workload, staffing, role conflict, role ambiguity, meeting emotional needs of the patient, leadership style and professional conflict as the main sources of stress on nurses.

The primary source of stress is the hospital itself. The stressors can be studied under the following classification (Jeanne, 1996): (1) Task stressors - which are related to general job tasks, and patient care tasks. (2) Relationship stressors - which are caused by re-

lationship with co-workers, supervisors and physicians. (3) System stressors - which are concerned with workload and scheduling, and facility design and maintenance

Consequences of Stress

When the stress response is elicited too intensely or too often, the individual is unable to rapidly dissipate the effects of stress response and the result is individual distress. They are reflected in physiological, psychological and behavioural outcomes.

Strategy for Stress Management: Legislations in India

The Factories Act, 1948 provides for the health, safety and welfare of the workers. It has provisions regarding carrying loads, working hours and holidays. The **Employees' State Insurance Act, 1948** is another measure of social security and health insurance in our country.

Role of TNAI: Ministry of Health & Family Welfare has given top priority to resolutions on nursing and nursing profession adopted by TNAI council, which relate to: nurse patient ratio and staffing pattern, inclusion of nursing staff in planning and decision making committees, improving working conditions of nurses, conducting staff development programmes and developing skill among student nurses (ICN, 2006).

Organisational level strategies: These include: prevention of stress, risk assessment and risk management by various approaches.

Stress Management Intervention Programmes (SMD): It is defined as an activity, programme or opportunity initiated by an

organisation which focuses on reducing the presence of work related stressors or on assisting individual to minimise the negative outcomes of exposure to these stressors. They are: Physical health and Emotional health.

Physical health: Stress management interventions for improving physical health include relaxation, exercise, biofeedback and nutritional counselling, CAM - complimentary and alternative medicine

Emotional health: The interventions at this level are cognitive / behavioural approaches which attempt to change stress-related thoughts, feelings and actions.

These include:

(a) cognitive restructuring, such as rational-emotive therapy, self-instructional training and structural psychotherapy; (b) coping skills therapies - problem-focused coping strategies such as confronting, seeking social support, and planful problem solving. Emotion-focused coping strategies include self-controlling, distancing, positively reappraising, accepting responsibility, escaping/avoiding; (c) problem-solving therapies: these are essentially a combination of cognitive restructuring and coping skills therapies. Assertiveness training (turning down requests, expressing personal limitations, initiating social contacts, express feelings, differ with others, hands on criticism) lessens anxiety, improves self esteem and decrease stress related interpersonal conflicts (Lees Susan, 1990).

Hardiness training protects against stress by altering perceptions of stress and by mobilising effective coping strategies.

Critical incident stress management (CISM) is an intervention method used in relation to sudden

unexpected critical events. In Critical incident stress debriefing (CISD), individuals can express their emotions.

Time management strategies are routinisation, prioritisation, scheduling and delegation, taught to employees based on Covey's First things First (Stephen, 1994).

Recommendations

(a) The nurse administrator has to implement the universal precautions, protective personal equipment and compulsory HBV vaccination, needleless delivery system and non-latex gloves, periodic breaks, safe working environment and safe patient lifting devices or lifting teams; (b) Improving shift work schedule by avoiding permanent night shift, avoiding quick shift changes and planning some free weekends; (c) Nurses must be given opportunity to discuss their problems at work periodically with colleagues, supervisors, administrators and counsellors.

Nurse administrators should provide a Stress-Free Work Environment (Professional autonomy over practice), Nursing control over the practice environment. Effective communication not only improves the quality of care and patient outcome but also nurses own health status and quality of life (Melanie et al, 2005). (b) To set up Stress Management Centre which has the components of a massage table, computerised stress assessments, a VCR and monitor, a stereo system, a reclining lounge chair, and an extensive audio, video, and text lending library. (c) To do a

stress audit which identifies the stressors, psychological and physical health symptoms, high risk groups, predictors of stressor outcomes and finally to make recommendations for future actions (Valerie et al, 1993).

Implications

The nurse administrator has to implement the universal precautions, protective personal equipment and compulsory HBV vaccination, needleless delivery system and vacutiners, non-latex gloves, periodic breaks, safe working environment and safe patient lifting devices or lifting teams. She should insist on practising proper body technique to prevent musculo-skeletal disorders. Occupational safety should be included as a special subject in nursing curriculum.

Conducting research on physical and psychological aspects of occupational safety and stress is yet another area.

Conclusion

Organisations must consider what they can do to eliminate occupational physical problems, workplace stressors. This will necessarily result in improved well being of the individual, as well as increased effectiveness of the organisation.

Finally the quote from philosopher Reinhold Niebuhr may help individuals to face stress effectively: "Grant me the courage to change the things I can change, the serenity to accept those that I cannot change and the wisdom to

know the difference".

References

1. Brunero Scott et al (2006). Stress management for Nurses, Australia, New South Wales Nurses Association
2. De Castro AB (2005). The OSHA General duty Clause. *American Journal of Nursing* Feb;105(2): 104
3. Yip Yin Bing Vera (2004). New low back pain in nurses: Work activities, work stress and sedentary lifestyle. *Journal of Advanced Nursing*; 46(4), 430-40
4. Trinkoff M Alison, Brady Barbara & Nielsen Karen (2003). Workplace prevention and musculoskeletal injuries in Nurses. *Journal of Advanced Nursing*; 33(3): 153-58
5. Park K (2005). Park's Textbook of Preventive and Social Medicine. 18th edn, Jabalpur, Banarsidas Bhanot.
6. Griffin Martha (2004). Teaching cognitive rehearsal as a shield for lateral violence: An intervention for newly licensed Nurses. *Journal of Continuing Education in Nursing*; 35(6): 257-63
7. Cox Tom, Griffiths Amanda, Cox Sue (1996). Work related stress in Nursing: Controlling the risk to health. Geneva. ILO
8. McVicar Andrew (2003). Workplace stress in nursing : A literature review. *Journal of Advanced Nursing*; 44(6): 633-42
9. Schaefer A Jeanne, Moos H Rudolf (1996). Work stressors Inventory. Center for Health care evaluation. Palo Alto, California
10. ICN, International Nurses Day (2006). Safe staffing saves lives. *Nursing Journal of India* May; XCVII (5), 98: 117-18
11. Lees Susan, Ellis Nich (1990). The design of a stress management programme for nursing personnel. *Journal of Advanced Nursing*, 15: 946-61
12. Covey Stephen (1994). First things first 1st edn. Franklin Covey Co. UK
13. Tremblay Lavoie Melanie et al. (2005). Improving the psychosocial environment. *Journal of Advanced Nursing*; 49(6): 655-64
14. Sutherland Valerie & Davidson J. Marilyn (1993). Using a stress audit: The construction site manager experience in the UK. *Work & Stress* 7(3): 273-78

Corrigendum

In April 2010 issue of NJI (Vol. CI, No.4), following mistakes have been carried inadvertently.

1. At page 79, 9th line from bottom, "Superintendents, . . . President TNAI, Maharashtra Branch. . ." may be read as, "Superintendents . . . President TNAI, Karnataka Branch . . ."
2. At page 82, in table of Provisional Ballot Papers, (a) against the column President, ". . . Lady Hardinge Medical College of Nursing, New Delhi" may be read as ". . . Lady Hardinge Medical College, College of Nursing, New Delhi." (b) against the column Chairperson Membership Committee, ". . . Lady Hardinge Medical College of Nursing, New Delhi" may be read as ". . . Lady Hardinge Medical College, College of Nursing, New Delhi." (c) against the column Chairperson, Nursing Service Section, "Miss S Kora" may be read as "Miss AT Kora." (d) against Representative LHV/ ANM & League, "Mrs Santosh Yadav, Principal . . ." may be read as, "Mrs Santosh Yadav, Superintendent . . ."