Shift Work in Nursing: Is it Really a Risk Factor for Nurses' Health and Patients' Safety?

Effects of Shift Work

Shift work can have an impact on sleep, well-being, performance, and organizational outcomes. The existing scientific studies indicate that shift work affects both sleep and waking by disrupting circadian regulation, familial and social life (Gordon, Cleary, Parker, & Czeisler, 1986; Labyak, 2002; Lee, 1992). Sleep obtained during the day or at irregular times is of poorer quality than that obtained during normal nighttime sleep. Chronically restricted sleep patterns and the subsequent sleep debt that accumulates over time may be most pervasive in such professions as health care delivery that function 24 hours a day, 7 days a week.

Evidence of high risk for significant behavioral and health-related morbidity is associated with sleep disorders among shift workers. Shift workers with sleep disorders have higher rates of cardiovascular diseases and digestive tract problems. Research into the impact on professionals has consistently identified a range of negative outcomes in physical, psychological, and social domains (Akerstedt, 1988; Costa, Lievore, Casaletti, Gaffuri, & Folkard, 1989; Kogi, 2005; Paley & Tepas, 1994). The morbidity associated with sleep disorders among shift workers was significantly greater than that experienced by daytime workers with identical symptoms, such as sleep-related accidents, depression, absenteeism, and missed family and social activities (Drake et al., 2004).

There is growing concern about the ability of individuals to maintain adequate levels of performance over long work shifts, particularly when those shifts span nighttime hours. Research results are mixed on this issue. Gold and colleagues (1992) reported that the main factor associated with medical errors was shift work. Rouch, Wild, Ansiu, and Marquie (2005) demonstrated short-term memory disturbances related to circadian rhythm disruption caused by shift work. However, 4 years after workers stopped working shifts, performance seemed to improve, which suggests a possible reversibility of effects.

Kawada and Suzuki (2002) found that rotating shift work affects the amount of sleep, but not the rate of errors among workers on a three-shift schedule. Suzuki, Ohida, Kaneita, Yokoyama, and Uchiyama (2005) found that professional mistakes, such as drug administration errors, incorrect operation of medical equipment in hospitals by nurses, and needlestick injuries were associated with the complaint of excessive sleepiness. Suzuki and colleagues (2004) presented no association between shift work and occupational accidents, but rather found an association between mental health and medical errors.

Most of the nursing studies rely heavily on the general scientific literature in the field of shift work and sleep disorders. Assuming that shift work is associated with sleep disorders, the focus of the nursing literature has been on improving the design of the shift system and on offering strategies for coping with rotating shift work.

Various recommendations have been made in regard to the design of the shift work system, such as length of shift (8-12 hours); principles of rotation (day, night, evening); scheduling (clockwise, number of shifts); and adjustment to individual needs ("morning people" vs. "night people") (Thurston, Tanguay, & Fraser, 2000). Recommendations for dealing with shift work include taking a nap prior to the shift; shift breaks; bright lighting; healthy snack food; and avoiding coffee, alcohol and smoking before daytime sleep (Cooper, 2003).

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