Workplace Fatigue Among Oncology Nursing Personnel

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Workplace fatigue is common among occupations that have prolonged work hours, rotating shifts, night-time work hours, inadequate time for rest during work, and insufficient time for recovery between shifts. Available evidence suggests that workplace fatigue poses a substantial threat to patient safety and contributes to worker injury and decreased vigilance. However, little is known about workplace fatigue among nursing personnel working in institutions dedicated solely to the care of patients with cancer. This study describes the scope and severity of workplace fatigue among nursing personnel working in the inpatient and ambulatory care divisions of a comprehensive cancer center.

At a Glance
• Oncology nursing personnel working in inpatient or ambulatory areas are vulnerable to workplace fatigue.
• Oncology nurses would benefit from monitoring their levels of workplace fatigue and engaging in self-care strategies to combat fatigue.
• A need exists for oncology nurses to work with their managers to overcome the problem of workplace fatigue.

Health care is not always as safe as it should be. Since the publication of the Institute of Medicine’s ([IOM’s], 1999) landmark report, To Err is Human: Building a Safer Health System, healthcare providers have extensively studied process changes that could reduce medical errors. The IOM (1999) report defined a medical error as an occurrence when a planned action fails to be completed as intended, or when the wrong plan is used to achieve an aim. The majority of medical errors have been found to be the result of faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent their occurrence (IOM, 1999, 2003). For example, work environments characterized by excessive work hours and rotating shift work have been shown to contribute to workplace fatigue, with a consequent increase in medical errors.

Workplace fatigue can be defined as a condition characterized by a heightened awareness, energy, and motivation, typically accompanied by a feeling of readiness, motivation, and body coordination that can lead to increased performance and the ability to tolerate increased stress while working (IOM, 1999; Rogers, Hwang, Scott, Aiken, & Dinges, 2004). One report found that nurses are present 84% of the time when medical errors that result in harm to the patient occur (IOM, 1999). Factors found to increase nurses’ risk of workplace fatigue include shift work (e.g., rotating off-shifts) and working more than 13 consecutive hours (Rogers et al., 2004; Scott, Rogers, Hwang, & Zhang, 2006; Yuan et al., 2011).

Studies indicate that nurses working long, consecutive hours and rotating off-shifts are at greater risk for making errors in patient care (Rogers et al., 2004; Scott et al., 2006), report a high number of musculoskeletal problems (Trinkoff, Le, Geiger-Brown, & Lang, 2006), have greater incidence of needlestick injuries (Trinkoff, Le, Geiger-Brown, & Lipscomb, 2007), and are less vigilant in their job performance (Scott et al., 2006). One investigator reported that nurses working rotating shifts, compared to nurses working fixed day shifts, were twice as likely to report accidents or errors and 2.5 times more likely to report “near-miss” accidents or errors (Gold et al., 1992).

The responsibility for assessing and managing workplace fatigue is shared by nurses and their employers (American Nurses Association [ANA], 2014; Canadian Nurses Association, 2010; Joint Commission, 2011; Lerman et al., 2012). Two reports have posited that nurses have an obligation to (a) engage in education regarding fatigue and the use of fatigue countermeasures and (b) develop the ability to recognize feelings of fatigue and use personal fatigue countermeasures appropriately (ANA, 2006, 2014). Similarly, efforts were supported by the Sentinel Event Alert (Joint Commission,
2011) directing accredited organizations to monitor workplace fatigue among employees and “to create and implement a fatigue management plan that includes scientific strategies for fighting fatigue” (p. 2).

Some evidence documents stress associated with working in oncology work environments and the effects on oncology nurses (Potter et al., 2010). However, little evidence in the literature specifically addresses the effects of work-related fatigue on oncology nurses. The current study sought to provide some insight into the scope and severity of workplace fatigue among oncology nurses working in the inpatient and ambulatory care settings at a designated comprehensive cancer center located in the Midwest.

**Methods**

**Setting and Sample**

This descriptive, correlational study was approved by the Wayne State University Institutional Review Board. It was conducted at a National Cancer Institute-designated comprehensive cancer center that provides inpatient and ambulatory services for patients with cancer and their families.

A convenience sample of nursing personnel was obtained from both services. Nursing personnel with direct patient care responsibilities were invited to participate in the survey. Nurses in management roles, advanced practice nurses, and clerical personnel were excluded. In total, 203 nursing personnel returned completed surveys. The sample consisted of mostly RNs (n = 143, 70%) and unlicensed nursing personnel (n = 55, 27%). Five respondents (2%) did not indicate their work role.

**Instruments**

Instruments included a demographic sheet and two author-developed Likert-type scales used to measure physical and mental fatigue. Demographic information was collected and included age (in five-year increments), work area (inpatient or ambulatory), work unit, work role, hours worked per week, and a self-report of the actual number of hours worked on the day of survey completion. Fatigue self-ratings were completed with Likert-type scales on two dimensions of fatigue: physical and mental. Anchors for these fatigue scales were from 1 (very little) to 10 (very severe). Participants were asked to rate their current level of fatigue at the time they were completing the survey.

**Data Collection and Analysis**

Nursing personnel eligible to participate in the study received an information sheet, the demographic sheet, and the fatigue scales in their work mailbox. Data were collected during a two-week period to allow time for personnel to have an opportunity to participate in the study. Completed instruments were returned to a locked box kept on each patient care unit. Data were analyzed using SPSS®, version 17.0. Descriptive, correlational, and inferential statistics were used.

**Results**

Of the 203 questionnaires returned, 202 participants self-rated physical and mental fatigue. The age of the 143 RNs (41–45 years) was somewhat higher than the age of the 55 nurse assistants (36–40 years).

Overall, 110 of the respondents (54%) reported high levels of physical fatigue (greater than 5), and 126 (62%) reported high levels of mental fatigue (greater than 5). The number of inpatient personnel reporting high levels of physical fatigue (80 of 135, 59%) was greater than the number of ambulatory care staff reporting high levels of physical fatigue (30 of 67). In contrast, the number of ambulatory care staff reporting high levels of mental fatigue (43 of 67) was greater than the number of inpatient staff reporting high levels of mental fatigue (83 of 135, 61%).

The mean level of mental fatigue was somewhat high for ambulatory care staff (X = 5.2) and inpatient staff (X = 5.5), but the difference between the means was not statistically significant. In contrast, the mean level of physical fatigue was significantly higher (t_{189} = 2.69, p = 0.008) for inpatient staff (X = 5.2) compared to ambulatory care staff (X = 4.3).

By job classification, mental fatigue was significantly higher (t_{201} = 2.01, p < 0.05) among RNs (X = 5.6) compared to nurse assistants (X = 4.8). However, nurse assistants reported higher levels of physical fatigue (X = 5.1) than RNs (X = 4.9), but this difference was not statistically significant. Mental fatigue (r = 0.23, p = 0.002) and physical fatigue (r = 0.22, p = 0.002) correlated positively with hours worked.

**Discussion**

To the best of the researchers’ knowledge, the current study is the first to examine workplace fatigue among inpatient and ambulatory oncology nursing personnel. The findings show that inpatient personnel report significantly higher levels of physical fatigue compared to ambulatory care personnel. These results may be related to the differences in work schedules at the researchers’ facility, where inpatient personnel typically work 12-hour shifts, compared to the 8-hour shifts worked by most ambulatory care personnel. Higher mental fatigue scores were reported by a substantial percentage of inpatient personnel and ambulatory care personnel. In addition, RNs reported significantly greater levels of mental fatigue when compared to non-RNs (e.g., nurse assistants). The researchers cannot extrapolate from the data to what extent mental fatigue overlaps with related phenomena (e.g., compassion fatigue, burnout). Still, mental fatigue among oncology nurses is an important area of concern. The vigilance required for close surveillance of patients and the attention required to detail and accuracy while administering and monitoring medications, particularly antineoplastic agents, demand a high level of mental alertness to avoid errors.

Hours worked correlated positively with physical and mental fatigue; the more hours nurses worked, the more mental and physical fatigue. These findings are consistent with what has been reported in other studies (Rogers et al., 2004; Scott et al., 2006). The positive correlation between hours worked and the level of fatigue raises questions about nurses’ increased vulnerability for making errors as their shifts draw to a close or when they are working overtime.

**Conclusion**

Overall, the findings of the current study suggest that a substantial percentage of oncology nursing personnel working in an inpatient or ambulatory care area are vulnerable to workplace fatigue. Therefore, nurses need to be vigilant about monitoring their levels of fatigue and increase their awareness about the
importance of self-management of fatigue to optimize their own health and minimize the risk of medical errors. Self-management strategies may be simple measures to combat workplace fatigue until oncology nurses and their employers combine their efforts to resolve this threat to nurses’ health and patient safety.

References


