



What Does Literature Reveal About Nurse Fatigue and Patient Safety?

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Nursing Fatigue and Patient Safety

- Nursing fatigue can lead to compromised safety of our patients.
- Causes of fatigue may include:
 - Extended work hours
 - High acuity levels of patients
 - Heavy workloads
 - Few or short breaks
 - Lack of adequate rest



Support statements for relevance of nursing fatigue and patient safety

- It is reported that “60-80% of nurses who rotate shifts have chronic sleep problems and/or fatigue” (Ross, 2008, p. 58).
- Fatigue has been known to cause slowed thinking and reaction times and the cause of impaired judgment.
- Mental alertness is an essential factor in nursing that is required for critical thinking and good patient care.



Support Continued...

- Like alcohol, fatigue can leave one physically and cognitively impaired (Garrett, 2008, p. 1192).
- 17 hours without sleep is equivalent of a blood alcohol of 0.05%.
- 24 hours without sleep is equivalent to a blood alcohol level of 0.10% (Garrett, 2008, p. 1192).



Current Situation

- No states have any “...regulations restricting the number of hours a nurse may voluntarily work in twenty-four hours or in a seven-day period” (Rogers, Hwang, Scott, Aiken, & Dinges, 2004, p. 203).
- The Institute of Medicine report for keeping patients safe, the recommendation is “that voluntary overtime also be limited” (Rogers et al., 2004, p. 203).



What the data tells us

- “Analysis of the data indicated that work duration, overtime, and number of hours worked per week had significant effects on errors with the likelihood of making an error when working a shift that lasted 12.5 hours or more” (Garrett, 2008, p. 1196).



Summary of the most relevant and best evidence to answer the question

- Julie Thao, RN example: A seasoned obstetrical RN worked double shifts back to back, slept at the hospital and worked a shift the next day. Near the end of the shift she administered the wrong medication to a patient, the result was fatal. Thao was charged with a felony “criminal neglect of a patient causing great bodily harm” sentencing for this criminal act is three years probation and mandatory exclusion from working in a critical care setting (Garrett, 2008, p. 1191).
- This demonstrates possible detrimental affects caused by fatigue. The situation is linked to adverse patient outcomes, which was at least in part caused by inadequate staffing patterns that lead to extended shift overtime and a quick change to come back to work.



Aim of the paper

- To emphasize the concerns related to nursing fatigue and patient safety, ultimately preventing unnecessary patient morbidity and mortality.
- Ways to avoid some unnecessary nursing fatigue and these suggestions may lead to improved patient safety.
- Policy implementation on ways to avoid fatigue may lead to improved patient care and safety for patients.



Summary of the Most Relevant and Best Evidence to Answer the Question

- When working more than 12.5 hours or more, a nurse was three times more likely to make an error. This error rate increased significantly for shifts worked after a 12 hour shift.
- One might not know how fatigued they are , experiencing.... “ The effects of sleep debt/deprivation are cumulative, thus increasing the likelihood that one would have micro-sleeps” (Ross, 2008, p. 57).
- According to Keller (2009, p. 497), “1.3 million health care errors each year and of those 48,00 to 93,000 results in the deaths of patients” as cited in Barger, Ayas, Cade, Cronin, Rosner, & Speizer, 2006. Errors occur for a variety of reasons, including the effects of extended work hours and shift work.



Critical appraisal of the evidence

- In the articles that we reviewed, the research supports the correlation between nursing fatigue and patient safety. Because direct patient care is provided around the clock, nurses have many options in scheduling regular shifts and extra shifts that fit into their lifestyles.
 - Unfortunately, nurses are not always recognizing just how fatigued they actually are and the fatigue can potentially lead to compromised patient care, such as was previously described in the Thao case in Wisconsin.
- Ross (2008) writes that individuals lack the ability to judge their own level of fatigue. Some of the most significant insults to patient care have occurred when nurses have either worked rotating shifts, or worked more than 12.5 hours in a day. In addition, working more than 8 hours can cause more errors, a decrease in productivity, and a decrease in vigilance in what nurses are doing (Ross 2008). “Nurses and interns have both reported impairment in critical thinking abilities. The risk of an error almost doubles when nurses work 12.5 or more consecutive hours” (Keller, 2009, p. 489).



Fatigue

- *Fatigue cannot be willed away and recovery from fatigue takes a minimum of two consecutive days of six to eight hours of sleep (Tabone, 2004, p. 8).*



Integration of the evidence

- Our group wrote individual narratives to integrate the evidence into our experience.
- **Nancy**
 - “I was stopped on several occasions by the police because I was speeding!...on my night rotation and waiting until the last possible moment to get out of bed because I was always tired!”
 - “...this nurse found a comfortable place to sleep all night! That was her last night.”
- **Beth**
 - “Sleeping during the day is foreign and not standard to my body so no matter how tired and fatigued I am sleeping is always difficult during the day. Due to this lack of sleep during my night shifts it is not uncommon for me to feel nauseated, decreasing my appetite. By decreasing my nutritional intake my fatigue increases.”
 - “I find it difficult to concentrate on involved patient issues and find it difficult to retrieve information from my brain when I am very tired.”
- **Karen**
 - “We looked all over for her and finally discovered she had made herself a bed on the floor under a desk at the back work station. She said she hadn’t gotten any sleep the day before.”
 - “Another colleague was so fed up with not being able to take a break during the shift that she started smoking again, just so she could get off the unit.”
- **Becky**
 - “I sleep better and perform better when I have a more regular sleep schedule.”
 - “I value staying alert and being able to perform high quality care, think critically about patient care and patient conditions.”
- **Bonnie**
 - “When not overworked and fatigued, I have the stamina and cognition to pay attention to the details that can make a huge difference for a patient or family member, in their coping and experience during a crisis time.”
 - “Patients notice and feel the difference when care is delivered by nurses and others who are not overworked, stressed or fatigued.”



Utilize the evidence in practice

- Based on the evidence and recommendations
 - One decision made in order to reduce the negative effects of fatigue was to keep a regular schedule in order to maintain a normal sleep pattern with a healthy and consistent home schedule.
 - Switching too many types of shifts has been recognized to be detrimental to one's personal and work lives.
 - Maintaining consistency is an important factor in avoiding fatigue.
 - The studies revealed how oftentimes nurses do not realize how tired they really are, until an error or adverse event has occurred.
 - Cognitively recognizing one's own fatigue is a first step in implementing a healthy change and remedy.



Utilize the evidence in practice

- Bright lights and keeping conversation during a long shift is a factor to consider.
- Respecting one's need for uninterrupted sleep between shifts, especially night shifts or extended shifts, is a decision that involves steps such as turning off phone ringers at home, darkening the room, or notifying family members of sleep times to avoid unnecessary interruptions. Advocating for adequate staffing to reduce mandated overtime is also a critical part of taking care of nursing staff. Poor working conditions that exhaust the human resources does not lead to good patient care, and ultimately harms everyone involved in the healthcare industry.
- Being overly tired and not completely alert has been and currently is a huge nursing concern for both the patients that the nurses care for, as well as for the nurses themselves. Typically, sleep is of better quality and staff is able to perform better with a regular sleep schedule. When not fatigued, these nurses report being able to perform high quality care and use critical thinking about patients and their medical conditions. When not fatigued, there has been improved stamina and cognition to pay attention to the details that can make a huge difference for a patient or family members during difficult times of coping and experiencing a crisis.



Evidence Based Practice Recommendations

- Several recommendations based on EBP have been documented.
- At least nineteen other states have considered bans on mandatory overtime for nurses and health care professionals. Ironically, error results were less pronounced when the extra work required of nurses was voluntary rather than mandatory (Tabone, 2004).
- The Institute of Medicine (IOM) recommends voluntary overtime is limited. In the IOM report on medical errors “safer medical care is more likely to result from changes in the environment in which health care is provided rather from blaming health care professionals, who may be providing the best care possible under poor conditions” (Rogers et al, 2004, p. 210).
- The Institute of Medicine also recommends, “blanket regulatory mandates that nurses in direct patient care be allowed to work no more than 12 hours per day and no more than 60 hours per week” (Tabone, 2004, p. 6).



Evidence Based Practice Recommendations

- Health care institutions are finding that
 - “adequately staffing and unrealistic workloads place a burden on nursing staff members, reduce the quality of care that nurses provide, lead to fatigue and unachievable expectations, and result in uncompleted tasks” (Garrett, 2004, p. 1202). During the legislative process in California, hospital stakeholders supported 10 patients per nurse, but the governing body mandated that five to six patients per nurse and that might be reduced to one to five when fully implemented.
- There are also legal implications to be considered. Precedents in the United States hold both the driver and employer responsible for injuries resulting from motor vehicle crashes caused by fatigued drivers (Keller, 2009). Shift workers on their way home from work involved in an accident are held liable; the hospital may be responsible also if long hours may be a potential cause.
- Employers can insure good lighting and an area for recreation for their workers.
- Scheduling should include not more than two consecutive night shifts, or two or three consecutive 12-hour day shifts.
- Staff should have at least two weekends off per month with equal distribution of workdays and days off.
- Keeping regular schedules helps maintain home activities and more consistent work/sleep time.



Evidence Based Practice Recommendations

- “Individuals are not good judges of their own fatigue levels” (Ross, 2008, p.58). Individuals should develop a good sleep routine: go to bed when sleepy, use relaxation techniques, no exercise two hours prior to retiring, and only a light snack at bedtime. Encourage a nap before coming to work. Use alcohol and sleeping pills with caution as they interrupt the normal sleep cycle. Use caffeine when needed for acute awareness.
- Workers should also consider darkening the rooms, the need for quiet white noise, turning off the telephone ringer and getting proper nutrition. Also very important is notifying family and friends of sleep times so they do not call or stop in.
- Not all of these recommendations will be heeded or implemented, but the information about fatigue, job satisfaction and patient errors is prevalent. It is hoped that outside forces help take care of nurses and nurses learn to care for themselves and their patients.



References

- Garrett, C. (2008). The effect of nurse staffing patterns on medical errors and nurse burnout. *AORN Journal*, 87(6), 1191-1198. Retrieved from CINAHL database.
- Keller, S. (2009). Effects of extended work shifts and shift work on patient safety, productivity, and employee health. *AAOHN Journal*, 57(12), 497-502. doi:10.3928/08910162-20091116-01.
- Rogers, A., Hwang, W., Scott, L., Akin, L., & Dinges, D. (2004). The working hours of hospital staff nurses and patient safety: both errors and near errors are more likely to occur when hospital staff nurses work twelve or more hours at a stretch. *Health Affairs*, 23(4), 202-212. Retrieved from CINAHL database.
- Ross, J. (2008). Fatigue: do you understand the risks to safety? *Journal of PeriAnesthesia Nursing*, 23(1), 57-59. Retrieved from CINAHL database.
- Tabone, S. (2004). Data suggest nurse fatigue threatens patient safety: is prescribing the nurse's work hours the only answer? *Texas Nursing*, 78(2), 4-7. Retrieved from CINAHL database.
- Tabone, S. (2004). Nurse fatigue: the human factor. *Texas Nursing*, 78(5), 8-10. Retrieved from CINAHL database.