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## The effect of night shift and melatonin imbalance on neurological situations of critical care nurses: A literature review

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Due to the special role of critical care nurses as a key member of the medical team and their direct communication with patients and other health-care community, their health is very important. Long-term night-shift in nurses getting more cynical and less empathetic as their training progresses, and might lead to many health-related problems. Disrupted body rhythms during shiftwork lead to major physiological and psychological effects on nurses that may also affect badly on patient's safety and the quality of care provided. The major cause of these problems is the deficiency of melatonin which is a hormone, secreted from the pineal gland, a pea-sized conical mass of tissue behind the third ventricle of the brain. Suppression of the night-time production of melatonin due to exposure to light at night has been the major point. This hormone is able to cross BBB and it has neuroprotective role in human being and is proved to be a versatile hormone having antioxidative property. On the other hand, oxidative stress characterized by increased free radical damage has been implicated in neurological disorders especially Alzheimer's disease and this effect is more risky and common in those over 40 years of age and may be more profound in a critical care setting. Deprived daytime sleeping may influence body homeostatic functions and causes fatigue and other health problems. Researches recommend that fatigue can negatively affect nurses' health, quality of performance and safety. So, it is essential that nurses working in these environments are able to maintain careful and astute observation of their vulnerable patients, and concern arises when they may be unable to do so. As discussed above, this review article was conducted to explain the harmful effects of night shifts on neurological situations and risk for Alzheimer's disease in nurses.

### Biography

Abtahinezhadmoghaddam Fatemehalsadat has completed her Master's Degree in Nursing in Public health care branch in 2014. Currently, he teaches as a Nursing Instructor. She has four articles in which two of them are published in *Bret Journal*.

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