

Quality of ICU patient's sleep

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Natural sleep has important restorative functions on all of us. It plays an essential part in our well-being. A normal good night's sleep consists of light sleep, deep sleep and rapid eye movement (REM) sleep. During deep sleep, the body's energy sources are restored and tissue repair is at its strongest. REM sleep is needed for the mind to process the past day's experiences and clean and restore the brain's energy stores. Sleep deprivation has been shown to increase sympathetic activity and affect negatively different endocrinological functions, immune system, and cognitive functions. Acute lack of sleep is known to cause patients fatigue, irritability, disorientation and hallucinations. All this may have deteriorating effects on patients' recovery from their illness or trauma. Lack of sleep is also believed to be a risk factor of delirium during their stay in an intensive care unit (ICU).

Acutely ill mechanically ventilated ICU patients sleep poorly suffering from sleep deprivation. Awakenings are frequent and patients are commonly deprived of deep and REM sleep stages, while they may appear to be sleeping. Even the use of sedative medication does not guarantee good sleep, as sedatives can interfere with normal sleep stage variation and lighten sleep. In a Finnish study, 114 non-intubated ICU patients' evaluated the previous night's sleep with Richards-Campbell Sleep Questionnaire. Evaluations varied extensively as the patients' answers fell into the whole scale from zero to 100, and standard deviations were high. Sleep depth was rated the worst and falling asleep the best of the RCSQ sleep domains. In another Finnish study 21 non-intubated ICU patients' sleep was measured with a polysomnography. The results confirmed that variation between patients was extensive as total sleep time ranged from zero to 10.3 hours. Seven patients slept longer than 7.5 hours, and five patients slept less than two hours. Sleep was mostly light as the relative amount of light N1 sleep was high and the amounts of deep N3 sleep and REM sleep were low. Patients' sleep was very fractional as there were a median of 33 [16, 44] awakenings per patient and 3.7 [1.8, 5.9] awakenings per hour during the polysomnographic recording.

Non-intubated ICU patients' sleep appears to be as light and fragmented as is the sleep of mechanically ventilated patients, and the quantity of sleep is much less than in healthy adults. However, there is large variation between the patients. Patients' sleep should be supported by providing as quiet surroundings as possible, dimming the lights, and making patient as comfortable as possible. Few sleep promotion guidelines and care bundles exist (e.g. Kamdar et al. 2013; Elliott & McKinley 2014). Their use is recommended to support patients' good night sleep.