

Sleep Deprivation and Delirium Development in the ICU

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Purpose

The purpose of this DNP project was to answer the following question:

How does the use of a set sleep promotion protocol impact the incidence of delirium development in geriatric patients in the ICU?

Study Aims

- Examine the clinical and statistical significance of outcomes related to delirium development and the role sleep deprivation plays in its development.
- Examine the clinical and statistical significance of outcomes related to the use of a set sleep promotion protocol.
- Identify the importance of this project as it relates to nursing implications and conducting future research.

Methods

Study Design:

A scoping review

Critical appraisal of peer-reviewed articles in a literature search between October 2021 to November 2021 that resulted in eleven articles.

Study Population:

Studies conducted in the intensive care unit (ICU) evaluating sleep deprivation and delirium development.

Data collection process:

Each article was evaluated for study type (level of evidence), sample size, age, delirium development, sleep deprivation, and the use of a sleep promotion protocol.

Secondary outcomes involved associated complications such as prolonged ventilation, length of stay, and overall mortality rates.

Data Synthesis:

A data extraction flow sheet was utilized to evaluate delirium development and its outcomes when using a set sleep promotion protocol.

Results

- The incidence of delirium development in the ICU is higher for those patients over 65 versus others in the same setting.
- Mortality rates were 76% among patients over 65 years who developed delirium during their hospitalization.
- The risk of death further increased by 26% following discharge home post-hospitalization.
- Disruptions in sleep-wake cycles are associated with altered mental status leading to delirium development.
- The use of a sleep promotion protocol revealed a 30% decrease in delirium development in the post-intervention groups.
- Over half of the patients utilizing a sleep promotion protocol reported improved sleep quality.
- Sleep deprivation and delirium development are interlinked, thus supporting the use of a sleep promotion protocol.

Background

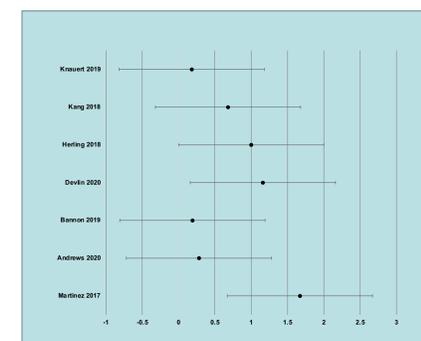
- Delirium is an acute syndrome characterized by disturbances in cognition and level of consciousness.
- Delirium occurs in 80 % of geriatric ICU patients, thereby contributing to numerous adverse patient outcomes.
- Mortality rates increase by 39 % for geriatric patients who develop Delirium.
- As a syndrome, Delirium is underdiagnosed with numerous risk factors associated with its development.
- Of these risk factors, sleep deprivation has become an increasing concern.
- ICU patients experience more significant sleep disturbances increasing their risk of delirium development.

References

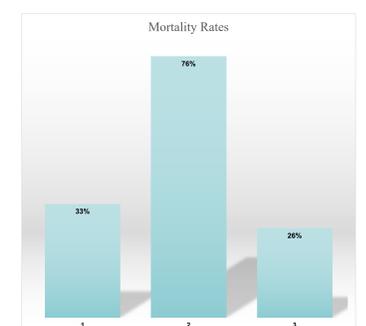
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- Additional references are available upon request.

Results

Sleep Quality



Delirium Related Mortality Rates



Implications for Practice

- The scoping review reveals the significant role sleep deprivation plays in delirium development for those geriatric patients within the ICU setting.
- The use of such protocols will positively impact the healthcare system by reducing healthcare costs by 40 % through the prevention of delirium development and associated complications.
- This review reveals the multidisciplinary team approach necessary to implement an evidence-based sleep-enhancing protocol to decrease the incidence of delirium development.