



# Change Presentation: Cluster Care

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# Introduction

- Clustered nursing care is a centralized and targeted management model that involves combining a series of nursing interventions into one patient interaction (Di et al., 2020).
- Clustering care includes providing toileting, vital signs, medication administration, repositioning, and other necessary patient care in the least amount of trips into the patient's room.
- The implementation of cluster care in nursing settings will improve patient outcomes and decrease the risk of hospital acquired delirium.
- This topic is crucial in acute patient care. Overall patient experience and outcomes are improved by clustering care especially regarding; uninterrupted sleep, stress reduction, and infection prevention.



# Introduction: QSEN Competencies

## Patient-Centered Care

- Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for patient's preferences, values, and needs (QSEN Institute, 2020).
- This relates to the topic of cluster care because it is recognizing a barrier within patient care. Its focus revolves around enhancing patient-centered care.

## Quality Improvement

- Use data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems (QSEN Institute, 2020).
- This relates to the topic of cluster care because it describes an approach for changing or bettering a process of care.



# Literature Review: Article One

Cluster Nursing Can Reduce Postoperative Delirium and Improve the Negative Emotions and Quality of Life of Elderly ICU Patients.

- This study's purpose was to explore the effects of clustering care in elderly patients in intensive care units (ICU).
- The enrolled 167 patients were divided into two groups: test group and control group. The patients in the control group underwent routine nursing, whereas the test group experienced clustered nursing care.
- The two groups' incidences of delirium, quality of life, and mental health were compared (Di et al., 2020).
- This study found that clustering nursing care can reduce the incidence of delirium and improve the quality of life (Di et al., 2020).
- This study relates to patient-centred care because it focuses on improving the outcomes of critically ill patients in the ICU.



# Literature Review: Article Two

## Effect of Clustered Nursing Care on Sleep Behaviors of the Preterm Neonates Admitted to the Neonatal Intensive Care Unit

- The study investigates the effect of clustered nursing care on sleep behaviors in premature neonates admitted to NICUs
- The clinical trial involved 60 neonates. 30 patients in the control group, and 30 patients in the intervention group. Both groups were monitored every 2 minutes during a 45 minute time period.
- The control group had 5 minutes of quiet sleep, 21 minutes of active sleep, 4 minutes of quiet awake, 9 minutes of alertness, and 1 minute of cry.
- The intervention group had 19 minutes of quiet sleep, 24 minutes of active sleep, 1 minute of quiet awake, 2 minutes of alertness, and 0.13 minutes of cry.
- The study showed that cluster care can significantly increase the time of quiet and active sleep in newborns (Bazegari et al., 2019)



# Literature Review: Article Three

Effect of Clustering Nursing Care on Spreading COVID-19 Infection Among Nurses: A Retrospective Study.

- This study investigated the effect of applying cluster care nursing on the spread of COVID-19 infections and fatigue level among nurses who provide nursing care for COVID-19 patients.
- The study involved 100 cases and 150 controls. 36.8% of nurses who did not use cluster care suffered from COVID-19 infection.
- 83.3% and 93.3% of those who clustered at least 3 or 4 procedures were free of COVID-19 infections.
- Applying cluster care for nurses decreased the spread of infection among nurses and decreased fatigue level related to work (Hendy et al., 2022)



# Literature Review: Article Four

## Effect of Clustered Nursing Interventions on Physiological Responses in Critically Ill Patients

- The study observed critically ill patients' responses to clustered nursing interventions to determine the physiological response related to the clustered nursing interventions (Ahmed et al., 2020).
- Observed in the study were 80 mechanically ventilated patients in the ICUs of Alexandria Main University Hospital and Damanhour Medical National Institute (Ahmed et al., 2020).
- The measurement of physiological response includes; vital signs, oxygen saturation, and end-tidal carbon dioxide using capnography (Ahmed et al., 2020). The study contains measurements before, 5-10 mins during, and 15 mins after cluster care nursing interventions (Ahmed et al., 2020).
- Respiratory rate decreased, systolic blood pressure increased, while oxygen saturation decreased due to clustered nursing interventions (Ahmed et al., 2020). The study suggests that in mechanically ventilated critically ill patients providing rest periods in between nursing care is more advantageous to the patient's status (Ahmed et al., 2020).
- The study relates to patient-centered care as it improves understanding of the best nursing considerations regarding critically ill patient populations. The study also relates to quality improvement as nursing care can be modified with the study's results to improve the quality of care patients receive.



# Literature Review: Article Five

## Nutrition Therapy in Critically Ill Patients With Coronavirus Disease 2019

- The article investigates the need for enteral and parenteral nutrition for diagnosed and suspected COVID patients.
- Reducing the spread of COVID is achieved by clustering nutritional and non-nutritional interventions (Martindale et al., 2020).
- Clustering nutritional and non-nutritional interventions reduces PPE usage (Martindale et al., 2020).
- Quality improvement QSEN competency dictates using data to boost patient results (QSEN Institute, 2020).
  - The data shows fewer providers contract COVID with early parenteral feedings clustered with initial assessments (Martindale et al., 2020).
- The patient-centered care QSEN expresses practicing coordinated care (QSEN Institute, 2020).
  - Cluster care is by naturally coordinated and is shown in the article by completing similar tasks simultaneously.
    - Chest x-rays are completed with enteral tube placement since placement is determined by x-ray (Martindale et al., 2020).



# Case Study

## Type of Setting

- Inpatient - Medical/surgical

## Issue/Concern

- Confused patient with elevated troponin
- Patient would refuse interventions
  - Heparin
  - Troponin
  - Venous blood gas
  - Vitals

## Precipitating Circumstances

- Sleep disruption
- Cognitive impairment - ANO x2
- Pulled an IV
- Anxiety
- Constant in-room care
- Pain

## Outcome

- No adverse complications
  - Troponin and heparin drawn
  - ANO x 4
- Patient & family satisfaction
  - Patient was cooperative
- Provider satisfaction
  - Time spent on other patients
  - Interventions were moved the end of the shift



# Synthesis

## Practice-

- Most of our studies showed that overall, cluster care can increase sleep, decrease delirium, and reduce the spread of infection among nurses and patients.

## Education-

- There are currently no guidelines for practicing cluster care in hospitals. After reviewing the research in these studies it is recommended that nurses try to provide clustered care when they are able to.
- Hospital should consider educating nurses on what tasks can be clustered together, and give recommendations on how nurses cluster tasks.
  - Morning labs can be drawn while the nurse is giving morning medications.

## Research-

- Studies should look further into cluster care in an ICU setting.
- Research showed that clustered nursing may worsen the physiological parameters of critically ill patients.



# Conclusion

By implementing clustered nursing care, patients have improved sleep patterns, lower infection transmission risk, and increased patient satisfaction.

Special considerations of the implementation of cluster nursing care include patient toleration. Clustering nursing care relates to patient-centered care as clustering nursing care allows for patient requests and preferences to be observed, such as undisturbed quiet time (QSEN Institute, 2020). The data utilized by the studies support quality improvement as data supported the implementation of clustered nursing care when tolerated to improve patient outcomes (QSEN Institute, 2020).



# References

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