WEBER STATE UNIVERSITY

Dumke College of Health Professions

ANNIE TAYLOR DEE SCHOOL OF NURSING

Benefits of Prone Positioning

In non-ventilated Covid-19 patients

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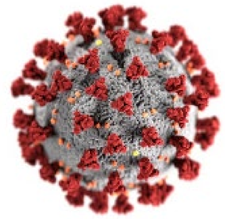

Figure 1

ABSTRACT

The Covid-19 pandemic is responsible for the deaths of over four thousand Utahns in the past two years[1] with frequent occurrences of local ICUs at capacity[2]. Encouraging non-invasively ventilated (NIV) patients requiring supplemental oxygen to prone or reposition improves patient oxygenation with some showing improvement of clinical outcomes. This project was designed to educate floor nurses on patients who could reposition and self-prone, anticipating an improvement of patient outcomes. Project and education took place at a 185-bed community hospital located in the most racially diverse area in the state of Utah.

PICOT QUESTION

Will nurses (P) who receive proning education (I) compared to nurses who do not receive proning education (C) implement proning with non-intubated Covid-19 patients (O) more frequently over the patients' course of stay (T)?

LITERATURE REVIEW

Although long-term outcomes weren't apparent due to original literature published shortly after Covid-19 pandemic began, one thing was clear, the use of proning almost immediately improved patient oxygenation.

- Early proning improves moderate to severe acute respiratory distress syndrome (ARDS)[3].
- Awake proning recruits more lung tissue, improving oxygenation and gas exchange[4]
- Covid-19 specific proning protocols developed in NYC emergency rooms had varied methods of monitoring. One was a finger SpO_2[5] the other utilized ABGs[6]
- BIPOC communities are disproportionally affected by Covid-19 both economically and in long-term health[7]
- Educating floor nurses how to implement awake proning protocols led to an intervention nurses could initiate[8]

PROJECT METHODOLOGY

This project aims to create a three-fold effect on NIV Covid-19 patients in the hospital setting.

- Improving patient oxygenation and preventing ventilators for Covid-19 patients.
- Educating floor nurses regarding prone positioning and repositioning, potentially decreasing patient transfer to higher levels of care and healthcare worker exposure during unplanned intubations.
- Educating floor nurses regarding prone and repositioning, empowering them to support patients who meet the criteria for this intervention and potentially improve patient outcomes.

Plan and Development

Inservice provided to med-surg and step-down nurses providing education on benefits of self-proning and repositioning. Flyers were developed and placed in prominent areas as well as coordinating PowerPoint presentation handouts.

Inservice included the following points:

- Physiology of proning including the ventral-dorsal trans pulmonary pressure gradient
- Inclusion and exclusion criteria
- Patient instructional pamphlets in English and Spanish

Evaluation

Nurses were asked to measure pre and post in-service confidence levels on a one to five scale about proning/repositioning implementation.

Data collected over a month evaluated:

- If patient received proning/repositioning education.
- Level of care patient transferred to including discharges or deaths.
- Amount of supplemental oxygen and method.

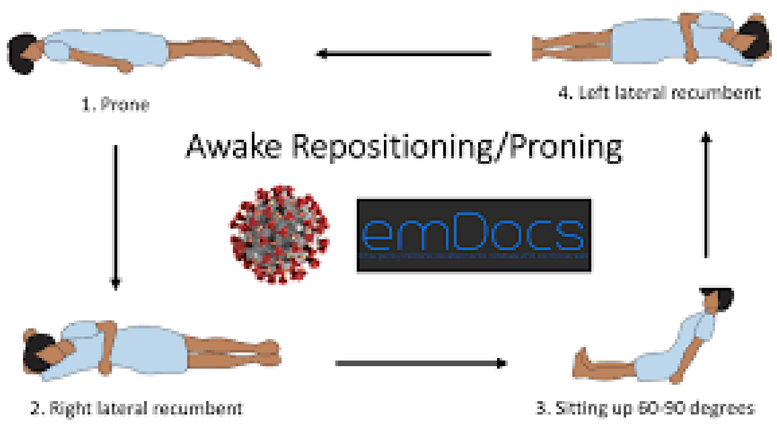

Figure 2

Clinical Scholar Model

Clinical Scholar Model takes advantage of the human element of curiosity, allowing clinical inquiry to occur naturally. Beginning with the observation process, one may challenge current practice by evaluating or even developing new research to improve patient outcomes, allowing development of new protocols empowering nurses to be change agents through research practices.

CONCLUSIONS

Prone positioning is underutilized with hemodynamically stable Covid-19 patients who require supplemental oxygen. It is often only reserved for mechanically intubated patients rather than those at the point in the viral course where supplemental oxygen may be needed[9]. Empowering floor nurses through education the importance of qualified patients to self-prone and reposition provides a nursing intervention that will improve patient oxygenation.

This project is limited to unpredictable cases of Covid-19 currently inpatient and willingness of floor nurses to participate in available education. Latest data show the amount of time in any position is still inconclusive and dependent upon which study is read.

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Figures

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