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A STUDY TO ASSESS THE EFFECT OF NASOGASTRIC TUBE FEEDING EDUCATIONAL INTERVENTIONS ON CRITICAL CARE NURSES' KNOWLEDGE AND PERFORMANCE IN SELECTED HOSPITAL OF KANPUR, UTTAR PRADESH

Dr. Peter Youtham (Ph.D. Guide) Mrs. Kiran Vishwakarma (Ph.D. Scholar)

INTRODUCTION

Critically ill patients have complex nutritional needs to meet the metabolic response to critical illness. The nutritional support for critically ill patients is an important determinant of their survival and recovery. Critical care nurses are the primary ones responsible for feeding the patients in intensive care units. Therefore, their knowledge and performance are important for providing adequate nutritional support for their patients and prevent malnutrition complications.

Nasogastric tube feeding is an essential way of delivering enteral nutrition when the oral route is insufficient or unsafe. Malnutrition is recognised as a reversible factor for sarcopenia and frailty. It is therefore crucial that malnutrition is treated in older inpatients who have dysphagia and require enteral nutrition. Despite five National Patient Safety Alerts since 2005, “Never Events” related to nasogastric feeding persist. In addition to placement errors, current practice often leads to delays in feeding, which subsequently result in worse patient outcomes. It is crucial that tube placement is confirmed accurately and in a timely way. Medical advancements in this area have been slow to find a solution which meets this need. In this paper, we provide an updated review on the current use of feeding nasogastric tubes in the older population, the issues associated with confirming correct placement, and innovative solutions for improving safety and outcomes in older patients.

According to the literature, the critically ill patient may develop malnutrition due to the nature of the critical illness, hypermetabolic states, and stressors of the ICU (Shahin,

Mohamed, & Sayed, 2012). Malnutrition is a clinical condition that affects multiple patient groups and can have a significant impact on clinical outcomes (Barker, Gout & Crowe, 2011; Stewart, 2014). It is usually associated with many complications such as infection, pressure ulcers, impaired wound healing (Kim, Stotts, Froelicher, Engler, & Porter 2012), disease severity, high morbidity and mortality, longer hospital stays, and increased health care costs (Correia & Waitzberg, 2003; Kim et al., 2012). Enteral feeding is a useful and well-tolerated approach for patients with normal gastrointestinal function but unable to ingest adequate nutrients through the oral route (Ojo Keaveney, Wang & Feng, 2019). It is more preferable to other feeding methods in the ICU as it enhances patients' immunity and survival, and is less expensive (Das, Patra, & Pradhan, 2015). The NGT is commonly used for critically ill patients for feeding and gastric decompression (Williams & Leslie 2004). Critical care nurses have a significant role in the delivery and management of EF and maintaining patient's optimal nutritional status (Das, et al., 2015; Morphet, Clarke & Bloomer, 2016). They are accountable for NGT insertion, ensuring its appropriate placement, giving the feeding, and monitoring its associated complications (Xu, Huang, Lin, Zheng, & Zhu, 2020).

METHOD

A quasi-experimental one-group with pre and post-test design was used with a convenience sample of 60 critical care nurses working in four intensive care units. The data were collected by using two tools: 'nasogastric tube feeding knowledge questionnaire' and 'nasogastric tube feeding observation checklist'. Nurses' performance of the NGT feeding was observed by the PI in the morning shifts. Based on nurses' pretest knowledge and practice scores, areas of inadequate knowledge, and incompetent practice were determined. Then, the PI prepared the NGT feeding educational guide based on the current evidence based practice. The guide included both theoretical materials and NGT feeding clinical procedures. Participants were divided into small groups according to their availability in the shift. The educational interventions were arranged during morning shifts from 10 am – 10.45 am at the nurse station in the ICU. Each participant nurse was given a copy of the NGT feeding educational guide. It involved an orientation session and three sessions covered all educational interventions. In the orientation session, the participants were given an overview of the study aim, the procedure, and the sessions' planned schedule. The educational sessions were repeated three

times per week for one month to allow the participants to attend the suitable sessions for their work schedule.

RESULTS

It showed that the majority of the nurses (81.7%) were aged between 21-30 years, were females (85%) and slightly more than half of them (53.3%) were married. Regarding the educational level, 38.3% had a secondary nursing school certificate and 36.7% had a Bachelor's Degree in Nursing. The results also illustrated that 40% of the nurses had more than 10 years of work experience in the ICU and 33.3% had less than 2 years of work experience in the ICU. Additionally, the vast majority of nurses (93.3%) reported that they didn't attend any training programs concerning NGT feeding. significant differences in nurses' assessment of patient's daily urine, glucose, acetone, and albumin, and preparation for NGT insertion after one and three months of the training (P=<0.005) A significant difference was also noted in nurses' performance of post-insertion care as the practice improved one month after the training but declined 3 months post-training (P=<0.005) . However, no statistically significant differences were detected in nurses' assessment of abdominal bowel sound or the insertion of the NGT.

CONCLUSION

The study concludes that educational interventions are a useful strategy to improve critical care nurses' knowledge and performance of NGT feeding for critically ill patients. This study highlights the need for continuous in-service training programs for critical care nurses to keep them up-to-date and skilled. It is also important to evaluate nurses' performance of NGT feeding periodically to ensure that they follow the evidence-based practice. Future investigations are necessary to evaluate the effectiveness of NGT educational interventions on critically ill patients' clinical outcomes

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