Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 7, Issue, 11, pp.23221-23223, November, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

CRITICALLY ILL PATIENTS: NURSING PRACTICES ON ENTERAL FEEDING

***,[1]Dr. Lakshmi, R., [2]Dr. Rajeswari, V. and [3]Dr. Badhe, A. S.**

[1]College of Nursing, JIPMER, Puducherry-06
[2]Sri Ramachandra University, Chennai
[3]Department of Anesthesiology, JIPMER, Puducherry

ARTICLE INFO

Article History:
Received 24th August, 2015
Received in revised form
05th September, 2015
Accepted 17th October, 2015
Published online 30th November, 2015

Key words:
Acid attack,
Bio-admixture,
Concrete,
Cracks,
Durability,
Microbial calcite precipitation.

ABSTRACT

Introduction: Acute critical illness is characterized by catabolism exceeding anabolism. Nutritional support has now recognized as sine qua non in management of critically ill. Timely initiation of optimal nutritional support is important to limit the catabolic process. The awareness among nursing staff about nutritional therapy is important for the overall management of patients in the ICU.
Aim and Objectives: This research project aimed to assess the Nursing care practices on enteral feeding in critically ill patients.
Material and methods: This study adopted prospective observational design to collect the data regarding feeding practices in critically ill patients. The study was conducted in a tertiary care center Intensive care units of South India. Sample of this study comprised of 1000 feeding observations from 121 critically ill patients on enteral nutrition. Results: The data reveals that, before administering naso gastric feeds the nurses washed the hands in 43 % of the observations. The head end of the bed was elevated less than 30 degree angle in 12% observation .The placement of the enteral tube was not checked in 73% of the observation. The gastric residual volume was not checked in 73% of the observations. The medications were mixed with the enteral feeds in 48% of the observation. The motility agents were not used in 99.3% of the observations.
Conclusion: Inconsistency in nursing practice to be improved with continuing education and practice surveillance

***Citation*:** Lakshmi, R., Rajeswari, V. and Badhe, A. S. 2015. "Critically ill patients: nursing practices on Enteral feeding" International Journal of Current Research, 7, (11), 23221-23223.

INTRODUCTION

Nutritional support in the ICUs world over has been shown to be suboptimal both in prescription and delivery (Alberda *et al.,* 2009; Giner *et al.,* 1996; Merritt, 2005). Many studies are available in literature on the adequacy of the nutritional support and its comparisons to patient outcomes. A study from an Indian tertiary care hospital showed that protein and calorie delivery to the critically ill was less than that recommended and this was associated with higher odds toward mortality (Heyland *et al.,* 2003; Adam, 1997; O'Leary-Kelley, 2005). The awareness among nursing staff about nutritional therapy is important for the overall management of patients in the ICU. Studies have not focused on the level of knowledge of the staff responsible to provide nutritional support, which could have resulted in the guidelines not being followed in the correct perspective. Practices and protocols followed in various ICUs are not uniform, leading to changing perceptions among the nursing staff. While there has been rapid growth in intensive care settings in the last decade, with an increase in the numbers of dedicated intensivists and critical care centers, the growth of trained paramedical services in terms of quantity and quality has been a limiting factor in most centers. Enteral feeding is the preferred method of nutritional support for the critically ill; however, a significant number of these patients are under-fed. It is possible that common nursing practices associated with the delivery of enteral feeding may contribute to under-feeding although there is little data available describing nursing practice in this area (O'Leary-Kelley *et al.,* 2005; Singh *et al.,* 2009).

**Corresponding author: Dr. Rajeswari, V.*
Sri Ramachandra University, Chennai.

MATERIALS AND METHODS

This research project aimed to assess the Nursing care practices on enteral feeding in critically ill patients. This study adopted prospective observational design to collect the data regarding feeding practices in critically ill patients. The study was conducted in a tertiary care center Intensive care units of South India. Sample of this study comprised of 1000 feeding observations from 121 critically ill patients on enteral nutrition. Critically ill patients who met inclusion and exclusion criteria was considered as sample. Inclusion criteria were critically ill patients, Minimum 24-48 hrs of critical care area admission, Minimum 3 days of ICU stay, Patients on enteral nutrition.

Exclusion Criteria were acute pancreatitis, acute intestinal obstructions, and Major Abdominal surgeries. Institute ethics committee approval and consent from the patients or their attenders were taken. Participant observation method was adopted to observe the nursing care practices of the unit.

RESULTS

The above table shows that out of 121 patients 65% of the subjects were males, and 71% of the patients from Neuro medical intensive care unit, and out of 1000 feeding observation 80% 0f the observation is from Neuro medical intensive care unit.

Table 1. Demographic characteristics

Demographic characteristics	n	%
Sex		
•Male	78	64.5
•Female	43	35.5
Total number of patients observed		
•Neurology patients	86	71
•General	35	29
Total number of feeding observations		
•Neurology patients	800	80
•General	200	20

Table 2. Feeding related aspects

		N=1000
Variables	n	%
Type of Recipe		
•Kanji	208	21
•Milk based preparation	511	50
•Egg preparations	245	24
•Juice	23	2
•others	26	3
Source		
•Dietary Dept	805	80.5
•Relatives	195	19.5
Type of formula		
•Non commercial	1000	100

Table 3. Feeding administration

Variables	n (100)	%
Hand washing		
•Washed	434	43
•Not washed	566	57
Head end of bed elevation		
•<30 degree angle elevation	119	12
•>30 degree angle elevation	781	88
Checking placement of tube		
•Checked	387	39
•Not checked	613	61
Checking residualvolume		
•Checked	270	27
•Not checked	730	73
Drug administration mixed with feeds		
•Mixed with feeds	480	
•Not mixed	520	48
Use of motility agents		52
•Used	7	0.7
•Not used	993	99.3

This table shows that 50% of the recipe delivered to the patient was milk based preparation . 80% of the observation it was delivered from dietary department of the hospital. All the patients received non commercial formulas only. The data reveals that, before administering naso gastric feeds the nurses washed the hands in 43 % of the observations. The head end of the bed was elevated less than 30 degree angle in 12% observation. The placement of the enteral tube was not checked in 73% of the observation. The gastric residual volume was not checked in 73% of the observations. The medications were mixed with the enteral feeds in 48% of the observation. The motility agents were not used in 99.3% of the observations.

DISCUSSION

Head end of the bed elevation during delivery of enteral feeds

There is good evidence that the 30 to 45 degree semi recumbent body position minimizes reflux and potential aspiration (Kattelmann *et al.,* 2006; Drakulovic *et al.,* 1999). studies examined body position in 86 mechanically ventilated patients and found that nosocomial pneumonia was highest in enterally fed patients in the supine position. The frequency of clinically suspected nosocomial pneumonia was lower in the semi recumbent group than in the supine group (three of 39 [8%] vs 16 of 47 [34%]; 95% CI for difference 10.0-42.0, p=0.003). In this study, generally all the patients were nursed in more than 30 degree head end elevation. However in 12% of the observations when the patients slide down, no efforts to made to pull up the patient before giving feeding. 88% of the observation, head end was elevated more than 30 degree Head of bed elevation before enteral feeding. Head of bed elevation is an easy and economical nursing intervention for most hospitalized patients.

Practice of hand washing before giving Enteral Feeds

This study identified that before administering naso gastric feeds, the nurses washed the hands only 43% of the observations. Most of the observations nurses did not wash hands between patients while giving feeds, however in this study we did not evaluate the outcome of it. It was illustrious in other studies that, the outsides of the feed containers, bottle openers, scissors and the experimenters' hands all acted as sources of contamination during the transfer of feeds to the nutrient container. The main source of contamination appeared to be the experimenters' hands with counts up to 10^2 cfu /ml being recorded for feeds that had been decanted from screw-cap bottles, cans and tetrapaks by experimenters with either unprotected bare hands or hands experimentally contaminated with K. aerogenes (Anderton, 1990: Lima *et al.,* 2005). However, in this study 57% of the observation nurses did not wash hands before handling feeds. Nurses have a vital role to play in minimizing risks of bacterial contamination in enteral feeding systems. This practice should be encouraged by implementing the feeding protocol and by motivating the nurses for compliance with the protocol

Gastric Residual Volume

To maintain adequate nutrition for patients who are in need, enteral feeding via nasogastric tube is necessary. Although the literature suggests the safety of continued Naso

Gastric Tube feeding at a gastric residual volume of <400 ml, inconsistencies in withholding tube feeding based on residual volume have been observed in clinical practice. Monitoring of residual gastric volume is recommended to prevent ventilator-associated pneumonia in patients receiving early enteral nutrition. However, studies have challenged the reliability and effectiveness of this measure (Reignier *et al.,* 2013). This study noticed that 73% of the observation, the gastric residual volume was not checked before administering enteral feeds, this indicates the feeding practice is not satisfactory in critical care units. The decision of withholding naso gastric tube feeding varied among the nursing staffs that were surveyed. A consensus is necessary for the standardization of withholding Naso gastric tube feeding in clinical practice among nursing staff.

Checking placement of enteral tube

Bolus nasogastric tube feeding is common. Unsafe practices such as failure to confirm tube placement can result in death. It is vital to ensure that nurses are adopting safe practices. This study noticed 69% of the observation nurse did not check the placement of the enteral tube before giving feeding. Chan *et al.,* 2012) evaluated nurses' practices on bolus nasogastric feeding relating to verification of tube placement, management of gastric residual volume, and response to complications during feeding. Seventy-six percent of nurse would choose two or more methods to verify placement when they were in doubt.

Conclusion

Enteral nutrition through a feeding tube is the preferred method of nutrition support in patients who have a functioning gastrointestinal tract but who are unable to be fed orally. Promoting patient safety in the enterally fed critically ill patient is dependent on nursing surveillance and recognition of potential areas of patient harm and medical errors. Identifying areas for potential human error, administrative and organizational conditions that are conducive to error, and the patient's own tolerance to Enteral Nutrition need to be recognized by the critical care nurse if the risk for Enteral nutrition complications is to be minimized.

Recommendations

- Periodic Continuing Education about nutritional support in Intensive care patients and practice surveillance can improve the delivery of nutrition in ICU patients.
- Compliance with the feeding protocol to be ensured

REFERENCES

Adam, S., Batson, S. 1997. A study of problems associated with the delivery of enteral feed in critically ill patients in five ICUs in the U.K. Intensive Care Med., 23:261–6.

Alberda, C., Gramlich, L,. Jones, N., Jeejeebhoy, K., Day, A. G., Dhaliwal, R., *et al.* 2009. The relationship between nutritional intake and clinical outcomes in critically ill patients: Results of an international multicenter observational study. Intensive Care Med. 2009;35:1728–37.

Anderton, A., K. E. Aidoo. Decanting—a source of contamination of enteral feeds 1990 Clinical Nutrition DOI:10.1016/0261-5614 (90) 90048-W pp.157-162

Chan, E. Y., Ng, I. H., Tan, S. L., Jabin, K., Lee, L. N., Ang C. C. ?. Nasogastric feeding practices: a survey using clinical scenarios.

Drakulovic, M. B., Torres, A., Bauer, T. T., Nicolas, J. M., Nogué, S., Ferrer, M. 1999. Supine body position as a risk factor for nosocomial pneumonia in mechanically ventilated patients: a randomised trial. Lancet, Nov 27;354(9193):1851-8.

Giner, M., Laviano, A., Meguid, M. M., Gleason, J. R. 1996. In 1995 a correlation between malnutrition and poor outcomes in criticallyill patients still exists. Nutrition, 12(1):23-29.

Heyland, D. K., Dhaliwal, R., Drover, J. W., Gramlich, L., Dodek, P. 2003. Canadian clinical practice guidelines for nutrition support in mechanically ventilated, criticallyill adult patients.J Parenter Enteral Nutr., 27(5):355-373.

Kattelmann, K. K., Hise, M., Russell, M., Charney, P., Stokes, M., Compher, C. 2006. Preliminary evidence for a medical nutrition therapy protocol: enteral feedings for critically ill patients. J Am Diet Assoc., Aug;106(8):1226-41.

Lima, A. R., Barros, L. M., Rosa, M. S., Cardonha, A. M., Dantas, M. A. 2005. Microbiologic evaluation of enteral diets handled in a hospital. Acta Cir Bras., 20 Suppl 1:47-50.

Merritt, R. 2005. The American Society for Parenteral and Enteral Nutrition. Nutrition Support Practice Manual. 2nd Edition.

O'Leary-Kelley, C. M., Puntillo, K. A., Barr, J., Stotts, N., Douglas, M. K. 2005. Nutritional adequacy in patients receiving mechanical ventilation who are fed enterally. *Am J Crit Care*., 14:222–31.

Reignier, J., Mercier, E, Le Gouge, A., Boulain, T., Desachy, A., Bellec, F., Clavel, M. *et al*. 2013. Effect of not monitoring residual gastric volume on risk of ventilator-associated pneumonia in adults receiving mechanical ventilation and early enteral feeding: a randomized controlled trial. JAMA, Jan 16;309(3):249-56.

Singh, N., Gupta, D., Aggarwal, A. N., Agarwal, R., Jindal, S. K. 2009. An assessment of nutritional support to critically ill patients and its correlation with outcomes in a respiratory intensive care unit. Respir Care., 54:1688–96.

****