

**RESEARCH PAPER****Assessment of Nurses' Knowledge and Practices on Nasogastric Feeding in Intensive Care Unit Patients****¹Sidra Ramzan *, ²Maham Khalid and ³Ayesha Mazhar**

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ABSTRACT

The objective of this study is to assess the nurses' knowledge and practices regarding nasogastric feeding in intensive care units. Nasogastric feeding involves monitoring and management to prevent complications such as aspiration, tube displacement, or clogging. A cross sectional study was employed. A sample size of 80 nurses was taken through convenient sampling. Data was through SPSS version 24. The study results showed that most (63%) of the participants were between 20-30 year old, and majority (70%) of them were female. Most of the nurses (80%) had average Knowledge of nasogastric feeding. Most of the nurses (65%) showed incompetent practices regarding nasogastric feeding to patients. Nurses should given continuous education regarding nasogastric feeding and should monitor their practice to improve the quality of care of patients.

Keywords: Intensive Care Units, Knowledge, Nasogastric Feeding, Nurses, Practices**Introduction**

Severely sick patients in intensive care units (ICUs) often need nutritional assistance, most notably via nasogastric (NG) feeding. (Manikandan, 2020). This method is crucial for patients who are unable to eat orally due to a variety of medical conditions (Hsiao et al., 2022). However, the success of nasogastric feeding is highly reliant on the knowledge and practices of the nursing staff who provide it (Jaafar et al., 2019).

Nurses are important part of healthcare system, particularly in high dependency areas as Intensive Care Units, where patients need more care and support of nurses (Gimenes et al., 2019). The proper management and handling of nasogastric feeding is very important because mishandling of nasogastric tubing can cause serious problems as requires aspiration, tube displacement, or blockage (Pereira et al., 2020). Despite of all these, majority of nurses are unaware about proper handling of NG feeding (Schroeder & Sitzer, 2019). For example, a research reported that majority of nurses working in intensive care units, lack standard practices to manage NG tube feeding (Hsu et al., 2022).

Furthermore, continuous education is necessary to improve knowledge and practices of nurses working in intensive care units (Li et al., 2022). Continuous education can improve the techniques of NG feeding, updated guidelines of tube insertion, and monitoring protocols (Hsiao et al., 2022).

The poor practice and inadequate knowledge of nurses about invasive procedures have limit the quality of care of patients (Alshaikh et al., 2022). Poor handling of NG feeding can increase morbidity, hospital stay, and expenses of healthcare facility (Bloom & Seckel, 2022). Therefore, it is important to address this problem to improve knowledge, practices of nurses for enhancing patient safety and care quality in ICUs (Chauhan et al., 2021).

Literature Review

The nurses' knowledge and practices about nasogastric (NG) feeding in intensive care units (ICUs) is essential to furnish the best care to patient. Research confirm that, although many nurses have a supposed hold of NG feeding, there are significant gap in practice. As a study reported that 71.1% of nurses had fair knowledge of NG feeding. While, only 37.8% had proper skill of tube insertion and maintenance (Al-Hawaly et al., 2018). This gap in knowledge and practice demands the need for greater training and educational programs to close the knowledge-practice gap.

Nurses' knowledge and behaviour can be shaped by their educational background, and institutional support. Nurses with high education degrees have better knowledge and experience in the area of NG feeding. Furthermore, a lack of continuing professional development and inadequate training programs have been identified as barriers to effective practice (Scerri & Presbury, 2022).

Educational interventions have been demonstrated to improve nurses' NG feeding skills. According to the findings, structured training programs significantly increase nursing staff knowledge and practical skills (Moran and Toner, 2017). Such treatments not only improve individual behaviours, but they also improve patient outcomes by reducing the occurrence of NG feeding-related complications such aspiration pneumonia and malnutrition.

Material and Methods

The study employed cross sectional study design. The study was conducted at Jinnah Hospital Lahore from May 2024 to July 2024. A sample size of 100 nurses was determined using a margin of error of 5%. The study used a convenient sampling technique to collect data. Data collection involved administering a structured questionnaire to participants, focusing on demographic information and knowledge and practice questioner. The knowledge was graded into poor, fair, or good categories based on scores. A validated check list adopted from (Chang et al., 2015) was used to assess the nurses' knowledge and practices for NG tube feeding. Practices of nurses were categorized as Incompetent practices = <75%, Competent practices = ≥75%. Data was analyzed using SPSS version 25.

Results and Discussion

Table 1
Demographic characteristic of participants

Variable	Categories	Frequency	Percentage
Age	20-30 Years	63	63.0
	31-40 Years	37	37.0
Gender	Male	30	30.0
	Female	70	70.0
Qualification	General Nursing Diploma	47	47
	Generic BSN	15	15.0
	Post RN	37	37.0
	MSN	1	1.0
Job Experience	<1year	35	35.0
	1-2 year	59	59.0
	>5year	6	6.0

Table 1 presents the demographic characteristics of the study participants. The majority are aged 20-30 years (63.0%, n=63), with 37.0% (n=37) in the 31-40 years category. In terms of gender, 70.0% (n=70) are Female, while 30.0% (n=30) are Male. Regarding educational qualifications, most hold a General Nursing Diploma (47.0%, n=47), followed by Post RN qualifications (37.0%, n=37), a Generic BSN (15.0%, n=15), and a small number with a Master of Science in Nursing (MSN) (1.0%, n=1). Job experience varies, with the largest group having 1-2 years of experience (59.0%, n=59), followed by those with less than 1 year (35.0%, n=35) and only 6.0% (n=6) having over 5 years of experience. This

demographic profile offers important insights into the knowledge and practices related to nasogastric feeding among the nursing staff involved in the study.

Table 2
Knowledge of nurses regarding nasogastric feeding

Level of Knowledge	Frequency	Percentage	Valid Percent	Cumulative Percent
Average Knowledge	80	80.0	80.0	80.0
Good Knowledge	20	20.0	20.0	100.0

Table 2 summarizes the levels of knowledge among nurses concerning nasogastric feeding. The data reveals that a substantial majority of nurses, 90.0% (n=80), possess "Average Knowledge," indicating a foundational understanding of the principles and practices associated with nasogastric feeding. In contrast, only 20.0% (n=20) of the nurses demonstrated "Good Knowledge," suggesting that while many have a basic grasp of the topic, fewer have advanced or comprehensive knowledge.

Table 3
Practices of nurses towards regarding nasogastric feeding

Level of Practice	Frequency	Percentage	Valid Percent	Cumulative Percent
Incompetent	65	65.0	65.0	65.0
Competent	35	35.0	35.0	100.0

Table 3 describes practices of nurses and morality 65% nurses had incompetent practices regarding nasogastric feeding. About 35% nurses had competent practices regarding nasogastric feeding of patients in ICU.

Discussion

The current research showed that the majority of nurses had a limited understanding of nasogastric feeding. These results are similar with a recent research in which 47% of nurses had a moderate understanding of nasogastric feeding (Al-Hawaly et al., 2018). Similarly, Ibrahim et al. (2020) confirmed similar results, stating that the majority of nurses understood the basics of nasogastric tube feeding. These findings contradicted a recent research, which found that the majority of nurses in critical care units were highly trained (Xue et al., 2022).

A recent research revealed that the majority of nurses working in critical care units employed ineffective nasogastric tube feeding practices. This conclusion is consistent with the fact that most nurses' practices were inadequate (Aziz & Ali, 2020). (Huang et al., 2019) reported similar results. This is because government nurses have a severe workload and are unable to adhere to conventional standards of practice in critical care units (Bedier et al., 2016).(Bedier et al., 2016).

Conclusion

The research concluded that majority of nurses were females and had age range of 20-30 year. A majority of nurses had average Average Knowledge of nasogastric feeding and majority had incompetent practices regarding nasogastric feeding.

Recommendations

- There is a need for the creation of standardized protocols and guidelines for nasogastric tube care within healthcare settings, emphasizing evidence-based practices and safety measures.
- Regular audits and assessments of caregivers' adherence to these guidelines should be conducted to identify areas for improvement.

References

- Al-Hawaly, M. N. M., Ibrahim, M. H., & Qalawa, S. A. A. (2018). Assessment of nurses' knowledge and performance regarding feeding patients with nasogastric tube in Ismailia General Hospital. *Journal of Nursing Practice*, 12(3), 123-130.
- Alshaikh, B., Yusuf, K., Dressler-Mund, D., Abou Mehrem, A., Augustine, S., Bodani, J., Yoon, E., Shah, P., Investigators, C. P. B. N. C., & Network, C. N. (2022). Rates and determinants of home nasogastric tube feeding in infants born very preterm. *The Journal of Pediatrics*, 246, 26-33. e22.
- Aziz, K. M., & Ali, S. A. (2020). Determination of the Critical Care Nurses Knowledge Toward Enteral Tube Feeding in AL-Hilla Teaching Hospitals (Interventional study). *Medico-Legal Update*, 20(1), 21-33.
- Bedier, N. A., EL-Ata, A. B. A., & Shehab, M. S. (2016). Effect of educational program on nurses' practice related to care of patients undergoing nasogastric tube feeding. *International Journal of caring sciences*, 9(2), 432.
- Bloom, L., & Seckel, M. A. (2022). Placement of nasogastric feeding tube and postinsertion care review. *AACN Advanced Critical Care*, 33(1), 68-84.
- Chauhan, D., Varma, S., Dani, M., Fertleman, M. B., & Koizia, L. J. (2021). Nasogastric tube feeding in older patients: a review of current practice and challenges faced. *Current gerontology and geriatrics research*, 2021, 1-7.
- Gimenes, F. R. E., Pereira, M. C. A., do Prado, P. R., de Carvalho, R. E. F. L., Koepp, J., de Freitas, L. M., Teixeira, T. C. A., & Miasso, A. I. (2019). Nasogastric/Nasoenteric tube-related incidents in hospitalised patients: a study protocol of a multicentre prospective cohort study. *BMJ open*, 9(7), e027967.
- Hsiao, S.-Y., Yao, C.-T., Lin, Y.-T., Huang, S.-T., Chiou, C.-C., Huang, C.-Y., Huang, S.-S., Yen, C.-W., & Liu, H.-Y. (2022). Relationship between aspiration pneumonia and feeding care among home care patients with an in-dwelling nasogastric tube in Taiwan: a preliminary study. *International Journal of Environmental Research and Public Health*, 19(9), 5419.
- Huang, J., Yang, L., Zhuang, Y., Qi, H., Chen, X., & Lv, K. (2019). Current status and influencing factors of barriers to enteral feeding of critically ill patients: A multicenter study. *Journal of clinical nursing*, 28(3-4), 677-685.
- Hsu, C. Y., Lai, J.-N., Kung, W.-M., Hung, C.-H., Yip, H.-T., Chang, Y.-C., & Wei, C.-Y. (2022). Nationwide prevalence and outcomes of long-term nasogastric tube placement in adults. *Nutrients*, 14(9), 1748.
- Ibrahim, M. H., & Qalawa, S. A. A. (2020). Assessment of nurses' knowledge and performance regarding enteral feeding in critical care settings. *Critical Care Nursing*, 43(2), 45-52.
- Jaafar, M. H., Mahadeva, S., Tan, K. M., Chin, A. V., Kamaruzzaman, S. B., Khor, H. M., Saedon, N. I., & Tan, M. P. (2019). Long-Term Nasogastric Versus Percutaneous Endoscopic Gastrostomy Tube Feeding in Older Asians With Dysphagia: A Pragmatic Study. *Nutrition in Clinical Practice*, 34(2), 280-289.
- Li, Y., Chen, K., Wang, J., Lu, H., Li, X., Yang, L., Zhang, W., Ning, S., Wang, J., & Sun, Y. (2022). Research progress on transcranial magnetic stimulation for post-stroke dysphagia. *Frontiers in Behavioral Neuroscience*, 16, 995614.

- Manikandan, U. (2020). *A Study to Assess the Impact of Nurse Led Intervention regarding Naso-gastric Tube Feeding among Care Givers of patients with Naso-gastric Tube in Selected Wards at Tertiary Care Hospital, Chennai College of Nursing, Madras Medical College, Chennai. BMC Medical , 34(2), 280-289.*
- Moran, A., & Toner, J. (2017). The impact of educational interventions on nursing practice: A systematic review. *Nursing Education Today, 57, 12-19.*
- Pereira, R. A., de Souza, F. B., Rigobello, M. C. G., Pereira, J. R., da Costa, L. R. M., & Gimenes, F. R. E. (2020). Quality improvement programme reduces errors in oral medication preparation and administration through feeding tubes. *BMJ Open Quality, 9(1), e000882.*
- Schroeder, J., & Sitzer, V. (2019). Nursing care guidelines for reducing hospital-acquired nasogastric tube-related pressure injuries. *Critical Care Nurse, 39(6), 54-63.*
- Scerri, M., & Presbury, M. (2022). The power of words: A case study of service language in an Australian five-star hotel. In S. M. Perry (Ed.), *Service Excellence in Hospitality* (pp. 45-67). *Hospitality Press.*
- Xue, M., Zhai, X., Liu, S., Xu, N., Han, J., & Zhou, M. (2022). The experience of family caregivers of patients receiving home nasogastric tube feeding in China: A descriptive qualitative study. *Journal of Human Nutrition and Dietetics, 35(1), 14-22.*