

## Nurses' knowledge and attitudes about enteral feeding complications by nasogastric tube in intensive care units

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**Objectives:** To determine the knowledge and attitudes concerning enteral feeding difficulties by nasogastric tube and demographic variables and to evaluate nurses' knowledge and attitudes about these complications.

**Materials:** This cross-sectional study was conducted in the teaching hospitals in Al-Basrah City; Al-Basrah Teaching Hospital, Al-Mawani Teaching Hospital, Al-Faiha Teaching Hospital, and Al-Sadder Teaching Hospital from October 25, 2022, to February 15, 2023. One hundred fifty nurses were enrolled using purposeful (non-probability) technique. A questionnaire was used for data collection.

**Results:** Majority of nurses (63.3%) had little to no understanding about nasogastric tube complications, while just 26.7% and 10% had moderate or good knowledge, respectively. The majority of nurses (74%) had negative attitudes toward nasogastric tube problems, followed by nurses with moderate attitudes (11.3%) and positive attitudes (14.7%).

**Conclusion:** Nurses had inadequate attitudes and knowledge regarding nasogastric tube complications associated with enteral feeding.

**Keywords:** Nurses, knowledge, attitudes, complications, enteral feeding, nasogastric tube.

### INTRODUCTION

Dietary guidelines state that feeding through the mouth should begin 24 to 48 hours after a patient is admitted to an intensive care unit or after their hemodynamic condition has stabilized.<sup>1</sup> If enteral feeding is required for a shorter period of time than 4 – 6 weeks, a nasogastric tube is placed through the nose into the stomach. Patients who are unable to eat orally due to illness or those who have neurological swallowing difficulties, upper gastrointestinal obstruction or gastrointestinal malfunction are candidates for enteral feeding.<sup>2</sup>

The simplest and most popular technique for tube feeding is the nasoenteral insertion of a gastric feeding tube. In contrast to parenteral nutrition, enteral nutrition has been proven to be more affordable and to provide patients with more nutritional advantages. It also has the advantage of assisting with digestive system function.<sup>3</sup> Nurses are often in charge of administering medicine via enteral tubes. Healthcare workers' knowledge and attitudes about enteral delivery are important to minimize patient morbidity and mortality.<sup>4</sup>

A number of potentially dangerous outcomes are linked to misplaced nasogastric tubes, including stomach perforation, pulmonary abscess, pneumothorax, gastritis, gastric ulcer, and gastric reflux.<sup>5</sup> The first few hours after surgery, when the Patients is being watched in the

post-operative care unit, are when most post-procedure bleeding occurs.<sup>6</sup> Nurses play an important role in treating and reducing complications of the nasogastric tube.<sup>7,8</sup> The aim of this study was to determine the knowledge and attitudes of nurses concerning enteral feeding difficulties by nasogastric tube.

### METHODOLOGY

This cross-sectional study was carried out from October 25th, 2022, to February 15th, 2023, in Al-Basrah City's intensive care units at the Al-Basrah Teaching Hospital, Al-Mawani Teaching Hospital, Al-Faiha Teaching Hospital, and Al-Sadder Teaching Hospital.

It included 150 nurses using non-probability purposive technique. Pilot research involving 15 nurses was employed by Al-Basrah Teaching Hospital. The study instrument is divided into four sections: the first section includes the demographic data about the nurses, such as" gender, age, years of experience, level of education and training course; the second section asks questions about knowledge of nasogastric tubes (15 items); the third section asks questions about knowledge of nasogastric tube complications (9 items); and the fourth section asks questions about attitudes toward nasogastric tubes (5 items).

Each of the questions in the first three phases of the assessment had three options "Agree, Uncertain, and

Don't Agree", and the answers were scored as "3 for an agree answer, 2 for Uncertain, and 1" if the respondent did not agree. Each question in the fourth section, which assessment of attitude include agree, uncertain, don't agree. The level of assessment for each item on the knowledge scales was evaluated and scored as follows by finding the cutoff criterion for the mean of the scores: The results of the study were as follows: (1 – 1.66) for poor knowledge, 1.67 – 2.33 for moderate knowledge, and 2.34 – 3 for poor knowledge have between 10 and 15 minutes to complete the questionnaire.

**Statistical Analysis:** Data were analyzed using the SPSS version 26.0. A tool for inferential data analysis is the chi-square .

**RESULTS**

Most of the nurses were aged 20 – 30 years, 54% were married and 68% had 1 – 5 years' experience (Table 1). Nurses' knowledge of nasogastric tube and complications was poor in 63% (Table 2). Attitudes toward nasogastric tube and complications was poor in 74% (Table 3).

**DISCUSSION**

In this study, 50% were female nurses. This is similar to previous studies.<sup>5,9</sup> The age bracket of 20 to 30 made-up 67.3% and 54% were married. This survey was in agreement with several previous studies.<sup>10-13</sup> With secondary school nursing (44%), the current study had the largest percentage in terms of educational level. Secondary school nursing had the largest percentage (64%) of participants. We found that 48.7% of nurses had between one and ten years of experience. These findings corroborated with an earlier study.<sup>14</sup>

Tables 2 in the current study's findings shows the statistics of nurses' knowledge of complications associated with enteral feeding. Statistics on nurses' knowledge are divided into two primary categories: knowledge of the nasogastric tube and knowledge of nasogastric tube problems. The findings indicate that most nurses (63.3%) are poorly informed about the difficulties associated with enteral feeding. The researchers think there could be a variety of reasons for nurses' lack of understanding of enteral feeding difficulties. Nursing educational level not mentioned in study,

**Table 1: Nurses' Demographic Data.**

Demographic Data	Classes	Frequency	Percent
Gender	M	75	50%
	Fe	75	50%
	Total	150	100%
Age	20 – 30	101	67.3%
	31 – 40	37	24.7%
	41 – 50	12	8%
	Total	150	100%
Marital status	Single	53	35.3%
	Married	81	54%
	Divorced	16	10.7%
	Total	150	100%
Years of experience	1 – 5 Years	103	68.7%
	10 – 6 Years	41	27.3%
	20 – 11 Years	6	4%
	Total	150	100%

**Table 2: Nurses' knowledge of nasogastric tube and complications.**

Assessment Levels	F	%	Scale	Total		
				MS	SD	Assc.
Poor	95	63.3%	1 – 1.66			
Moderate	40	26.7%	1.67 – 2.33	1.65	0.758	Poor
Good	15	10%	2.34 – 3			
Total	150	100%				

**Table 3: Nurses' attitudes toward nasogastric tube and complications.**

Assessment Levels	F	%	Scale	Total		
				MS	SD	Assc.
Poor	111	74%	1 – 1.66			
Moderate	17	11.3%	1.67 – 2.33	1.59	0.788	Poor
Good	22	14.7%	2.34 – 3			
Total	150	100%				

nurses did not learn enough about the problems of enteral feeding. The majority of nurses don't regularly

refresh their expertise, and there aren't enough training programs for nurses on enteral feeding difficulties. The findings corroborated with a study<sup>15</sup> that showed majority of nurses (54.3%) had limited awareness of the nasogastric tube. The results of the current study concurred with another study<sup>13</sup> which demonstrated the nurses' limited understanding of enteral feeding tubes. The current study's findings indicate a significant association between nurses' knowledge and educational attainment.

## CONCLUSION

Majority of the study's nurses had poor attitudes concerning nasogastric tube complications and little knowledge of these problems.

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