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Original Article

Knowledge Assessment Regarding Nasogastric (Ng) Tube Insertion Guidelines Among Nurses in District Headquarters Hospital Toba Tek Singh

Shamshad Akhter[1], Amjad Ali[2*] and Khursheed Rehman[3]

[1]Department of Nursing, District Headquarters Hospital, Toba Tek Singh, Pakistan
[2]Department of Nursing, Shalamar Nursing College, Lahore, Pakistan
[3]Super College of Nursing, Bahawalpur, Pakistan

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***Corresponding Author:**
Amjad Ali
Department of Nursing, Shalamar Nursing College, Lahore, Pakistan
amjadkmu233@gmail.com

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ABSTRACT

Inserting a nasogastric tube in most countries, is the responsibility of the nursing profession. To ensure patient safety and avoid complications, nurses must first understand what they know and do when inserting nasogastric tubes into sick patients. As a result, the nurse must have the necessary knowledge and abilities for tube insertion and verification. **Objective:** To assess the knowledge regarding Nasogastric (NG) Tube insertion guidelines among nurses. **Methods:** Descriptive cross-sectional research design was utilized in the current study. A total of 105 nurses were selected for this study. Modified form of questionnaire were utilized to collect data. Data was analyzed by using (SPSS) version-22. Frequency distribution tables and graphs were used to describe the results of study. **Results:** The result finding shows that knowledge for all nurses in this study as regards Nasogastric (NG) Tube was unsatisfactory 65.7% while only 34.3 % with a satisfactory knowledge. The educational level is directory co-related with the knowledge level. Those who have a degree level education score more than diploma level with a p equal to 0.01. **Conclusions:** Knowledge level of nurses regarding NG tube insertion guidelines was found unsatisfactory. It is the most important thing for nurses to know the nasogastric tube guidelines because then they can provide effective care to the patients, and by following the nasogastric tube guidelines nurses can improve their everyday practice.

INTRODUCTION

A nasogastric tube is a long polyurethane or silicon tube that is inserted through the nasal passage and into the stomach via the esophagus. They are frequently used in surgical practice for a variety of reasons [1]. There are numerous types of nasogastric tubes. In the hospital, there are two major types of NGT tubes. The main distinction between these two types is the number of lumens present in the tube [2]. Serious complications can occur if the tube is misplaced into the lung. NG tubes are used for therapeutic and diagnostic purposes and are typically used for 48-72 hours [3]. These complications include pneumothorax, which can occur if the tube enters the larynx or trachea. The presence of a nasogastric tube in the nose for an extended period of time can damage the cilliary epithelium and cause infection, which can lead to sinusitis. The tube can also coil up in the throat. Perforation of the piriform sinus can result in retropharyngeal abscess. If the patient has a pre-existing esophageal disease, such as an unrecognized diverticulum of the esophagus, perforation of the esophagus may occur [4]. Nurses, junior doctors, and anesthetists insert nasogastric tubes in the operating room. It is critical that the personnel inserting them understand the proper insertion technique as well as the procedure for verifying their correct positioning [5]. According to a National Health Service report, nasogastric tubes are widely used in the United Kingdom [6]; but it has

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been linked to complications such as pneumothorax, aspiration by proxy, aspiration pneumonia, lung abscess, pleural effusion, empyema, and esophageal perforation [7]. According to a Retrospective study about 13 case notes across 10 hospital wards showed that the majority of NG Tubes took place on the stroke unit [8]. The most common error in NG Tube placement is tube placement into the respiratory tract. Rates of respiratory placement for blind insertion are commonly reported to be between 1 and 3% [9]. The agency expressed concern this week that unreliable tests were being used by health professionals to determine whether a tube had been properly inserted [10]. Additional reports of 21 deaths and 79 cases had been submitted to the National Reporting and Learning System (NRLS) tube is now necessary to deliver nutrition or medication in hospital wards and intensive care [11]. If the nurse uses the NG tube improperly and uses it for feeding or suctioning while it is located incorrectly, the patient may experience serious complications. The number of these tubes used annually, the deaths and complications that could have been avoided, tube. I went over the nursing care for NG tubes. About 13.3% of nurses in Pakistan were found to have knowledge of equipment use and other nursing care techniques. This is the general level of care in the hospital setting in the rural and district care unit, even though the knowledge level might not be an exact reflection of the insertion of the nasogastric tube [12]. Therefore, there is need to find out the knowledge level of nurses in a district level hospital about NG tube insertions guidelines.

METHODS

Descriptive cross-sectional research conducted in District Headquarters Hospital Toba Tek Singh**.** Selected participants were all staff nurse, having at least one year experience and have practice the procedure one time while those nurses how didn't work in Intensive care unit, all those having master's degree in nursing were excluded from the study. The Calculated sample size was purposive sample of 105 bedside nurses. Calculated through open epi software by using confidence interval of 95%, margin of error 5%, population proportion 350 and percentage 10.9 (10.9% critical care nurses had an overall adequate level of knowledge. To collect data for the current study, a Modified form questionnaire was used with a content validity 0.73 and reliability with Cronbach's alpha 0.81. Nurses' knowledge questionnaire schedule about nasogastric insertion It covers three main parts which are Pre insertion, during insertion and post insertion. The knowledge score examined using 15 questions, with a point value of one for each correct response and zero for each incorrect response. Two categories the participants score 9-15 mean Satisfactory Knowledge > 60% and if score less than < 9 mean is considered Unsatisfactory Knowledge: <60%. Data were analyzed by using frequency table and chi-square test with a significance less than 0.05.

RESULTS

Table 1 show the sample distribution based on demographic data, as shown that (79%) of the studied participants were between the age of 21 and 30, 18.1% were between 31 and 40, and only 2.9% were between the age of 41 and 50 year. On the base of gender 56.2% were female and 43.8% were males. In terms of marital status, 58.1% were single and 41.9% were married. According to job experience, 65.7% have 1 to 3 years, 4 to 6 years with 24.8%, and 7 to 9 with 9.5%. On the basis of education, 36.2% held a diploma, 33.3% a Registered Nurse (RN), and 30.5% a Bachelor of Science in Nursing (BSN).

Table 1: Demographic variable of staff nurses

Variables		Frequency (%)
Age	21-30	83(79)
	31-40	19(18.1)
	41-50	3(2.9)
Gender	Female	59(56.2)
	Male	46(43.8)
Marital Status	single	61(58.1)
	Married	44(41.9)
Job Experiences	1-3 Year	69(65.7)
	4-6 Year	26(24.8)
	7-9 Year	10(9.5)
Educational level	Diploma	38(36.2)
	BSN	32(30.5)
	Post RN	35(33.3)

Analyzed by frequency (n) and percentage (%)

Table 2 showed total Knowledge Distribution as a Percentage Scores for Nasogastric (NG) About 69 (65.7%) had unsatisfactory knowledge with a score less than, while 36(34.3%) had satisfactory knowledge with a score greater than nine. The reported average score mean is 8.14, with a standard deviation (S.D) of 1.89, indicating that the majority of the participants score less than 9. It means that the majority of nurses had inadequate knowledge regarding NG tube insertion guidelines.

Table 2: Knowledge of Staff Nurses regarding NG Tube

Knowledge Level	N (%)	Mean ± SD
Unsatisfactory score <9	69(65.7)	8.14 ± 1.89
Satisfactory score 9-15	36(34.3)	

Table 3 showed that there was a significance association between the education level of participants and knowledge level with p equal to 0.01. The participants having a diploma about 32 score less than 9 and 6 participants with satisfactory knowledge score greater than 9. While the degree holder who had BSN 17 with unsatisfactory and 15

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were with satisfactory score out up 32 participants; and those who hold Post RN degree 20 were fall in unsatisfactory while 15 score satisfactory knowledge. Its means that educational level is directory co-related with the knowledge level. Those who have a degree level education score more than diploma level with a p<0.05.

Table 3: Knowledge Gap among Nurses regarding NG tube insertion Guideline

Educational level	Unsatisfactory knowledge (Less than 9)	Satisfactory Knowledge (9-15)	Total	df	p-Value
Diploma	32	6	38	2	0.01
BSN	17	15	32		
Post RN	20	15	35		

Analyzed by Chi-squared test with p<0.05, CI: 95% and d:5%

DISCUSSION

This study reported that most of the nurses 79% were in young age 21 to 30 years, female 56.2% single 58.1% with job experience 1 to 3 year 65.7% and with 36.2% hold nursing diploma on the base of education. This result was supported by Hassan study found that three-quarters of the participants in the study were female, with more than half of them being between the ages of 25 and 35, and one-quarter being between the ages of 35 and 45 [13]. More than half of them are diploma nurses with more than ten years of experience. This study finding revealed that average score was 8.14 ± 1.89 indicating that the majority of the participants score less than 9. It means that the majority of nurses about 65.7% had inadequate knowledge regarding NG tube insertion guidelines. Similarly, the study of Mohammed Reported most of nurses were not aware about study revealed that the nurses knowledge about NG tube was 54.3% (Poor), followed by those who have 37.1% (fair) knowledge [14]. Furthermore, the finding of Mahmoud study showed that most of the nurses had low level of knowledge on the Nasogastric (NG) Tube [15]. The majority of nurses, however, were unaware of the contraindications of the Nasogastric (NG) Tube. According to Ceruti *et al.*, study majority of nurses lack of knowledge about NG tube insertion guidelines [16]. However, the study of Alhassan *et al.*, show that nurse's knowledge towards insertion of the nasogastric tube indicated good knowledge [4]. The majority of 98 people (82%) were aware of the factors to consider when choosing the size of the nasogastric tube, which included the patient's age, weight, health, and diagnosis. These 78 (94%) were also aware that the proper placement of the tube may be determined by aspiration of the stomach contents. Similarly, the majority of nurses had adequate knowledge of the Nasogastric (NG) Tube [17]. Additionally, the finding of Sari *et al.*, study reported that most of the nurses know about the indications for the Nasogastric (NG) Tube [7]. According to Fan *et al.*, and Chauhan *et al.*, if the nurse do not know the guidelines this lack of knowledge would result in resistance, time waste, and poor health care delivery [18, 19]. Another author said that Nurses should always seek correct knowledge on the insertion of an NG tube because the guideline updated time to time [20]. Similarly study discovered that nurses were unsure about the proper methods of confirming tube position, with the outdated bubbling test being one of the tests they used due to unaware about the new techniques and updated guidelines [21]. The current study recommended that continuous education and training sessions about the NG Tube be provided. This includes knowledge about the nasogastric tube, the steps of insertion, and how to check tube placement based on evidence, as well as the provision of nurses and critical care units with printed universal guidelines simply in posters and booklets related to the NG Tube.

CONCLUSIONS

The current study concluded that their knowledge level of the nurses regarding NG tube insertion guidelines were 65.7% with unsatisfactory and 34.3% with satisfactory knowledge score. Furthermore, there was a significant association between the education level of participants and knowledge level; those who hold BSN and Post RN degree score more than diploma holders with a p<0.05. This lack of nursing knowledge and incorrect information causes numerous hazards in practice, such as tube inserting and conforming, because incorrect inserting can result in numerous complications and misplacement, which may result in death or dangerous complications.

Conflicts of Interest

The authors declare no conflict of interest.

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