

## PAMPHLET AS A TEACHING TOOL FOR IMPROVING NURSES KNOWLEDGE REGARDING NASOGASTRIC TUBE FEEDING

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### **ABSTRACT**

#### **OBJECTIVES**

*This study aimed to assess the effectiveness of informative pamphlets to improve nurses' knowledge regarding nasogastric tube feeding.*

#### **METHODOLOGY**

*A quasi-experimental study was carried out among nurses in private and government tertiary care hospitals in Peshawar, KPK. The critical care unit participants were selected for the study using a convenient sampling technique. The participants were divided into control and experimental group. The experimental group was taught by informative pamphlet while the control was not. The questionnaire was adopted from similar studies, which included 17 questions. Data were analyzed by using SPSS software version 25.*

#### **RESULTS**

*The experimental group's score was higher than the control group. The mean knowledge score of the control group participants was 15.42%, whereas the mean score of the intervention group was 17.82%. It shows that the intervention group resulted better than the control group.*

#### **CONCLUSION**

*Keeping in view the current study; it may be concluded that using informative pamphlets as a teaching tool significantly improves nurses' knowledge about nasogastric tube feeding.*

**KEYWORDS:** Pamphlet Teaching, Nasogastric Tube, Nurses, Knowledge, Feedings

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#### **INTRODUCTION**

Every human being needs a sufficient amount of food to stay alive. The person takes food by mouth

with proper nutrition to maintain health. Sometimes, patients cannot take their food orally due to medical conditions like difficulty swallowing, pharynges' inflammation, esophagitis, pancreatitis, stroke, etc. These patients are more prone to malnutrition, and it is vital to provide sufficient food to the patient to prevent malnutrition. Therefore, a nasogastric tube is mainly used to maintain adequate nutrition. Nasogastric (NG) tube feeding is a procedure performed by nurses for those patients who cannot take food orally.<sup>1</sup> The nasogastric tube is used for feeding, medication, and stomach lavage in certain conditions like an overdose of drugs, poisoning,

and diagnostic purposes.<sup>2</sup> NG feeding is routine care for patients who are critically ill. For nutritional management in a critically ill patient, NG feeding is challenging. A nurse plays an essential role in patient care. Patient health is affected by nurses' knowledge and practice. According to the literature review, patients who suffer from stress and anorexia cannot take food, and their body's nutritional demand is high. So for these patients, nasogastric feeding is helpful. However, nasogastric feeding is contraindicated in some conditions like a patient suffering from gastrointestinal tract infection, bowel obstruction, diarrhea, and vomiting.<sup>3</sup> A quasi-experimental study was carried out in Egypt for "Effect of an education program on nurse's knowledge and practice about nasogastric tube feeding". According to this study, nurses' knowledge is insufficient due to an understanding of proper guidelines and education programs regarding nasogastric tube feeding. The education program had a good effect on enhancing quality patient care.<sup>4</sup> Another experimental study conducted in Egypt indicates that the mean practice score of nurses regarding NG tube feeding before giving any education program was  $40.18 \pm 3.30$ , and it improved up to  $87.09 \pm 14.55$  after giving any educational program.<sup>5</sup> Another study results showed that 62% of nurses had insufficient knowledge regarding nasogastric tube feeding and more than 38% had good knowledge.<sup>6</sup> Furthermore, a quantitative descriptive study was conducted in Kolkata hospital to assess the knowledge and practice of nursing staff regarding NG feeding and found that 76% of nurses had sufficient knowledge about enteral feeding, and 24% had insufficient knowledge.<sup>7</sup> In another study from Cairo, most of the study participants were female, married, and diploma holder and their ages ranged from 26 to 45 years. They have more than ten years of experience in the critical care unit, the result of this study revealed that 63% of participants have poor knowledge, and they don't know the proper guidelines of medication administration via NG tube and 36% to 53% mistakes done because of tube blockage and aspiration, 63% of participants want the educational program to improve their knowledge and to overcome complication. conducted a quantitative cross-sectional study in India. The study resulted that 44% of the nursing staff had above-average knowledge, and 44% had below-average knowledge regarding NG feeding among critically ill patients. This study also revealed that 80% of nurses understand before

giving nasogastric, 74% during feeding, and 73% of practice skills after feeding. Similarly, another study reported a variation in knowledge among nursing staff. Among the study participant, 100% was able to initiate NG feeding. Half of the participant, 43%, had good knowledge about NG feeding, and 49% was competent to check the NG tube placement.<sup>8</sup> Providing an educational program about enteral nutrition highly improves caregiver knowledge and practice and reduces NG feeding complications. Before any implication, 62.5% of study participants had adequate knowledge, and 91% had sufficient knowledge after an educational program.<sup>9</sup> Another cross-sectional study in Lahore, Pakistan showed that 48.6% of nurses had poor knowledge levels, and only 10% had appropriate knowledge.<sup>10</sup> Being a health care provider, nurses should know about proper assessment of tube size, tube position in the stomach, method of tube feeding to prevent complications, and provide effective patient care. Nurses' lack of appropriate knowledge regarding nasogastric tube feeding may lead to complications such as pulmonary aspiration, vomiting, and regurgitation. Limited literature is available in the Pakistani context on this topic. So the research was conducted to know the exact status of nurses' knowledge concerning NG feeding. These findings will be shared with hospital management to develop and implement policies for proper care of patients with nasogastric tube feeding. On the other hand, during our clinical observation, it was observed that nurses have poor knowledge regarding nasogastric tube feeding. We will introduce a pamphlet as a teaching tool for improving nurses' knowledge about NG feeding. This study will be helpful for nurses to enhance their understanding of the proper administration of nasogastric tube feeding.

## METHODOLOGY

A quasi-experimental design was used as the study design. The participants were divided into control and experimental group. The experiment group was taught by an informative pamphlet the control group was used for comparison. The research was conducted at both public and private tertiary care hospitals in Peshawar. The study subjects were registered nurses with a minimum six-month clinical experience. Registered nurses were selected by using a convenient sampling technique. Convenient sampling is a non-probability sampling technique where subjects are selected because of their easy availability and proximity to the researcher. The sample size was calculated by

Raosoft software, with a margin of error of 5 %, a confidence interval of 95%, and a calculated sample size of 103. Registered nurses with a minimum of six months of experience in patient care were included in this study while nurses who have attended any specialized education workshop on Nasogastric tube feeding were excluded from this study. Data was collected through a well-organized questionnaire adopted from.<sup>11</sup> The questionnaire consists of seventeen questions about the knowledge of nurses regarding NG tube feeding. The participants were divided into experimental 52 and control 51 groups. The experimental groups were taught the appropriate procedure of NG tube insertion using an informative pamphlet in the local language, the control group was taught by a discussion on the topic. The mean scores of both groups were calculated and compared for significant differences. The data collection approval was taken from the Chief Nurse of Rehman Medical Institute, while Approval in Hayat Abad Medical Complex was taken from the nursing director. The informed consent was taken from each participant for their agreement as a participant, and respect for autonomy and confidentiality was assured. Data were analyzed by using SPSS version 25. In the descriptive statistics, Frequencies and percentages have been calculated for nominal and ordinal data; whereas, Means and standard deviation were calculated for continuous variables. In inferential statistics, an independent sample T-test was applied to compare the mean difference in nurses' knowledge regarding NG tube feeding.

**RESULTS**

This study consisted of 103 participants, including 38 (36.9%) male, 60 (58.3%) female, and 5(4.9%) who didn't mention their gender specifications. The mean age of the participants was 26.25, with a standard deviation of 4.067. As far as staff qualification level is concerned, 41.7% of participants were diploma holders, 46.6% were BSN degree holders, and 11.7% of participants didn't mention their qualifications. The participants were divided into two groups, 50.5% of the participants were in the control group, and 49.5% were in the interventional. The mean score of the intervention group was 17.82 whereas it was 15.42 out of 24 for the control group. Independent sample T-tests were applied to the mean knowledge and grouping variable to find any significant association. It was signed with a p-value of 0.001. Furthermore, chi-square was

applied to the category of knowledge and grouping variables; it was also significant with a p-value of 0.012.

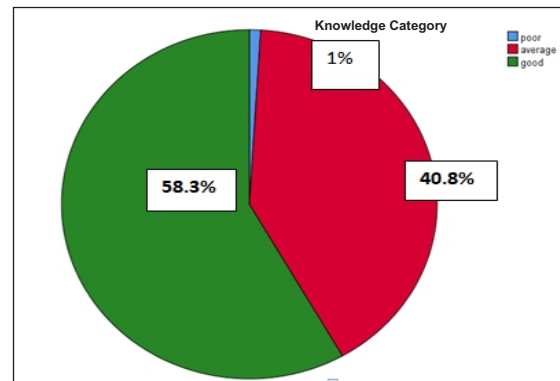


Figure 1: Pie Chart Showing the Knowledge Level of Participants

As shown in figure 1 the knowledge of participants was divided into three categories. The knowledge score from 1 to 8 out of 24 scores was considered poor knowledge, participants who score from 9 to 16 were considered with average knowledge, and those who scored from 17 to 24 were considered good knowledge. In this study, 1% of participants have poor knowledge, 40.8% have the average ability, and 58.3% have good knowledge.

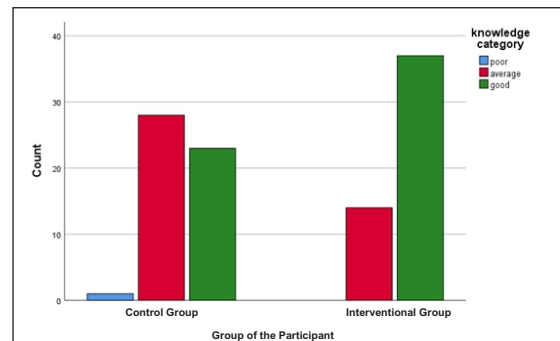


Figure 2: Comparison of Knowledge between Control and Interventional Group

**DISCUSSION**

The research conducted in Egypt found that knowledge regarding NG feeding before the implementation of the education program was poor, and after the implementation of education, it improved. This study revealed that education programs improved nurses' knowledge regarding feeding administration. Similarly, the current study also shows that the teaching program had a good effect on nurses' knowledge.<sup>8</sup> Another study, "Impact of Implementing an Education Program Regarding Care of Nasogastric Tube Feeding on

Nurse's Knowledge," was conducted in Egypt and reported that 62% of nurse's poor knowledge and 38% have satisfactory knowledge.<sup>1</sup> In contrast, this current study shows good knowledge in nurses regarding NG Feeding. Qusai's Experimental study "The Effect of systematic education intervention about NG tube feeding on caregiver's knowledge" was done in China and showed no significant difference found in pretest knowledge between the control and experimental groups. In contrast to this, the current study reports a significant difference in control and experimental group scores.<sup>4</sup> The cross-sectional descriptive study "Critical care nurses' knowledge and skill regarding NG feeding. They found that 10% of nurses have poor knowledge, 30% average knowledge, and 60% have good knowledge.<sup>9</sup> A cross-sectional descriptive study about "Knowledge and Practice among Nurses Regarding NG Feeding "was conducted in Lahore and found that 48% of nurses had poor knowledge, 10% adequate knowledge, and 41.4% average knowledge. This study concludes that nurses' low level of knowledge, compared to this current study, shows good knowledge about NG Tube Feeding. Compared to this recent study, 1% of nurses had poor knowledge before the intervention of the education program. The present study emphasized that nurses had a good level of knowledge among nurses regarding NG feeding with the mean of and SD resulted in poor knowledge of the practice of the nurses.<sup>1</sup> Training sessions should be conducted in a healthcare organization to improve nurses' knowledge regarding NG tube feeding. Furthermore, this study also recommended providing written guidelines protocol to nurses about nasogastric tube feeding and encouraging nurses to attend national workshops about nasogastric tube feeding.

### LIMITATIONS

In this study, the casual association may not be determined because of non-probability sampling.

### CONCLUSION

The current study concluded that pamphlets provided to nurses working in I.C.U.at Rahman medical institute and Hayat Abad medical complex hospitals significantly improved their knowledge and practice related to patients undergoing nasogastric tube feeding.

**CONFLICT OF INTEREST:** None

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