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## Study on use of enteral feeding tubes in a tertiary care hospital in Kerala

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#### Abstract

When enteral feeding tubes are inserted in patients with swallowing difficulties, medicines are also administered through these tubes. The present study aims at analyzing the extent of use of different types of Enteral Feeding Tubes among various departments of a tertiary care hospital. A prospective observational study was carried out in a tertiary care hospital of Kerala state of India. A total of 160 patients meeting the criteria were identified over 3 months. Highest number of patients was from department of neurology. When the type of enteral tube was analysed 74.4% of patients (119) was on naso gastric tube.

**Keywords:** Neurology, enteral feeding tubes, Kerala

#### Introduction

The enteral nutrition through enteral feeding tube is a widely used method of providing adequate nutrition to patients having swallowing difficulties or any kind of impaired access to gastro intestinal tract. In such patients the drugs are also required to be administered through these enteral feeding tubes. The enteral nutrition administration appears to be more feasible and less complicated when compared to parenteral nutrition but in fact this process requires a lot of knowledge and attention which could otherwise lead to harmful impact on patients. The administration of drugs through such tubes also requires sufficient knowledge and alertness to avoid mild to life threatening adverse drug events in the patients. The enteral feeding tubes are of different types and purposes. Naso-gastric tubes, naso-jejunal tubes, naso-duodenal tube and jejunostomy tubes are some examples<sup>[1]</sup>. The present study aims at analyzing the extent of use of different types of Enteral Feeding Tubes among various departments of a tertiary care hospital.

#### Methodology

##### Study site and design

A prospective observational study was carried out in a tertiary care hospital of Kerala state of India.

##### Study Criteria

Male and female patients of all age groups who were on Enteral Feeding Tube due to any medical condition were included in the study. Patients at any level of criticality were considered.

##### Study period and method

Data was collected over a period of 3 months using specially designed data collection form. The main parameters recorded were age and gender of patients, department of admission, unit of care and type of feeding tube used. The obtained data was sorted and analysed using Microsoft Excel.

#### Results

A total of 160 patients meeting the criteria were identified over 3 months. When the gender wise distribution of patients was taken, males were more in number than females. 94 (58.75) patients were males and 66 (41.25%) were females. (Fig 1). Most number of patients fell into the age group of 61-70 years. (Fig 2) The general trend was that more patients were elderly, and middle aged and paediatric patients are much lesser in number compared to younger age

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group of 21-30. The mean age of patients was found to be 56. Highest number of patients was from department of neurology which was 45. This was followed department of neurology and department of general medicine which had 20 and 18 patients respectively. Departments with lower number of patients on EFT were Gynaecology, Urology and ENT (Fig 3). Looking at the unit of care most of the patients were in general ward (56) followed by medical ICU (36) and then surgical ICU (23) and neuro ICU (21) (Fig 4). When the type of enteral tube was analysed 74.4% of patients (119) was on naso gastric tube. Other tube types were not commonly found and there were less than 15 patients on each type. (Fig 5)

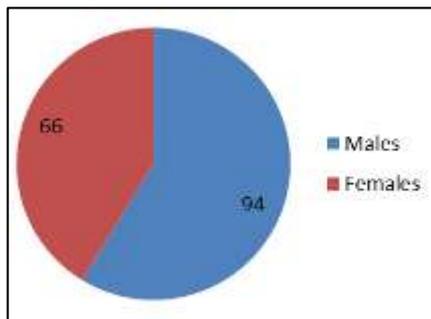


Fig 1: Gender wise distribution

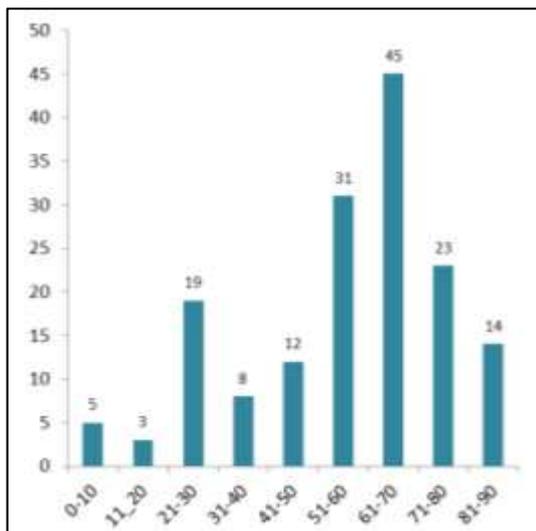


Fig 2: Age wise distribution of patients

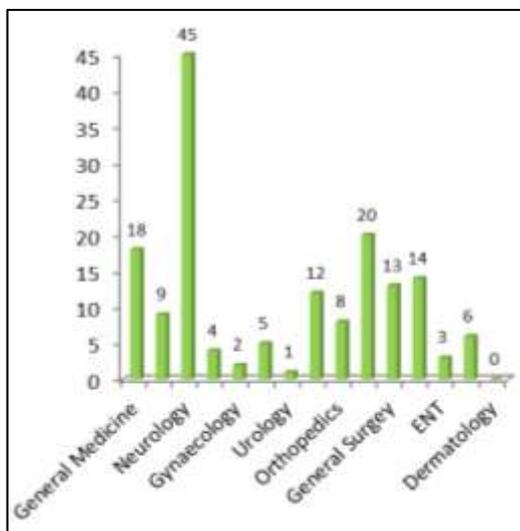


Fig 3: Department of admission

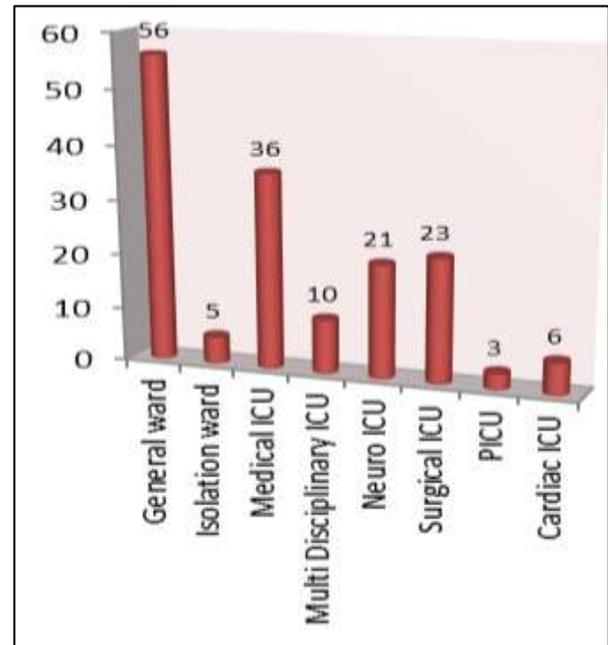


Fig 4: Unit of care

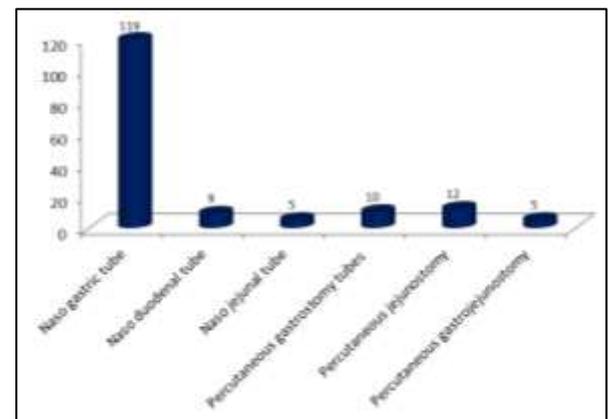


Fig 5: Type of Enteral Feeding Tube inserted

**Discussion**

The mean age of patients was 56 years. This is nearly equal to the patient population of a study by Sohrevadi et.al who conducted the study in a 16 bedded ICU of a large teaching hospital. Their patients had a mean age of 58 years [2]. The gender distribution of present study showed that male patients was more in number than female patients (94 males and 66 females). This was inconsistent with the study of Presoti et.al [3] and the study by Gorzoni et al. [4] where females were more in number than males. In the present study neurology and neuro surgery were two departments with highest number of patients being put on enteral feeding tube. This is because of the nature of diseases related to nervous system. Stroke patients constitute a significant percentage of patients of neurology department who usually get swallowing difficulties due to the disease conditions. In neuro surgery most cases are accident related brain injuries where the patient remain unconscious or with minimal abilities for a longer period of time. All these conditions necessitate the insertion of enteral feeding tubes to the patients. In the study by Fernanda et.al who carried out a cross sectional study in three Brazilian hospitals to find out medication related problems in patients on EFT they found that highest number of patients on EFT were having circulatory diseases (44.1%) which is not

consistent with the present study because a very low number of patients with circulatory diseases was identified [5]. In the current study highest percentage of patients were on naso gastric tube (74.4%). This was not in agreement with the findings of other researchers. In Mari Jorge *et al.* study 55.1% of patients was on post pyloric EFT and 44.9% was on distal stomach EFT [6]. In the study by Fernanda *et al.* 82.9% of the patient population was on jejunal access tube [5]. The post pyloric tubes have many proven advantages over gastric tubes. But they require endoscopic techniques for insertion. This complexity of process and related increase of expense along with the high cost of the tubes may be limiting the use of such tubes in countries like India. Another factor is that post pyloric tubes are more useful in patients with conditions like gastric paresis and stenosis but very few of our patients had these conditions as reason for being on enteral tube.

### Conclusion

The study found that Enteral Feeding Tubes are commonly used in patients with swallowing difficulties. Naso gastric tube was the most commonly used tube type in the study site which represents tertiary care hospitals in Kerala.

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