

# The role of interdepartmental education on tracheostomy tube management

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## Introduction

- Patients with tracheostomy tubes are commonly seen
- Prevalence has increased over the past two decades
- As prevalence increases, the number of tracheostomy tube issues proportionally increases
- Otolaryngologists are rarely the first to assess patients with tracheostomy tube issues
- Tracheostomy is an uncommon educational topic for nonsurgical first responders
- Do Otolaryngologists play a role in ensuring tracheostomy education for this group of providers?
- The goal of this study was to improve patient care by empowering/educating nonsurgical residents/fellows on tracheostomy tube concepts/management

## Methods and Materials

- Emergency medicine, internal medicine and critical care programs agreed to participate in study
- A standardized lecture was given on tracheostomy tubes and their associated complications/malfunctions
- Pre and post surveys were given that measured subjective and objective measures of comfort and knowledge respectively
- Responses were graded on a Likert scale (0-5)
- These were then compared using student's T-test
- P value of 0.05 was used

Comfort level questionnaire (pre vs post)	Likert scale (0-5)- average		
	Pre survey	Post survey	P value
Talking to patients/physicians about tracheostomy tubes?	2.66	3.6	< 0.05
Assessing a patient with a tracheostomy tube?	2.85	3.63	< 0.05
Managing an airway emergency in patients with tracheostomy tube?	2.44	3.37	< 0.05
Replacing a tracheostomy tube with incidental decannulation?	2.44	3.6	< 0.05
Labeling different tracheostomy tube parts and their uses	2.56	4.19	< 0.05

Table 1: Comfort level questions asked with associated pre and post Likert scale score



## Results

- 54 residents/fellows participated in the study
  - Internal medicine-21
  - Emergency medicine- 13
  - Medicine-Pediatrics- 8
  - Critical Care medicine- 12

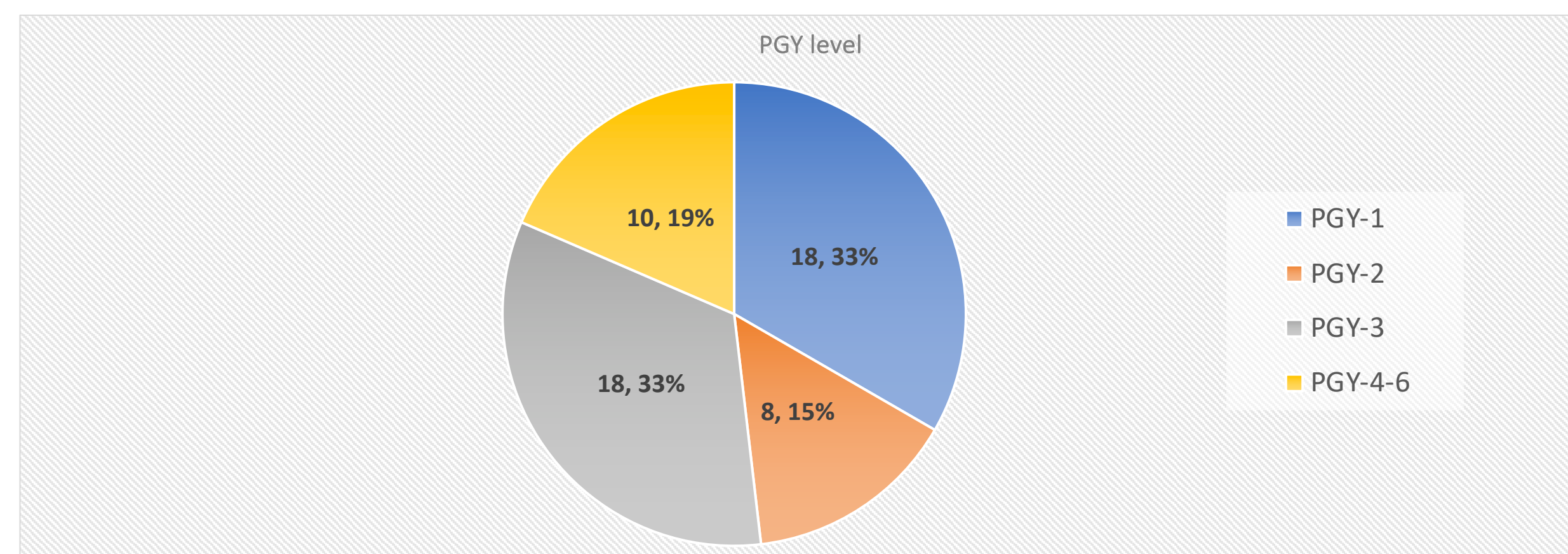


Figure 1: PGY level representation in the study

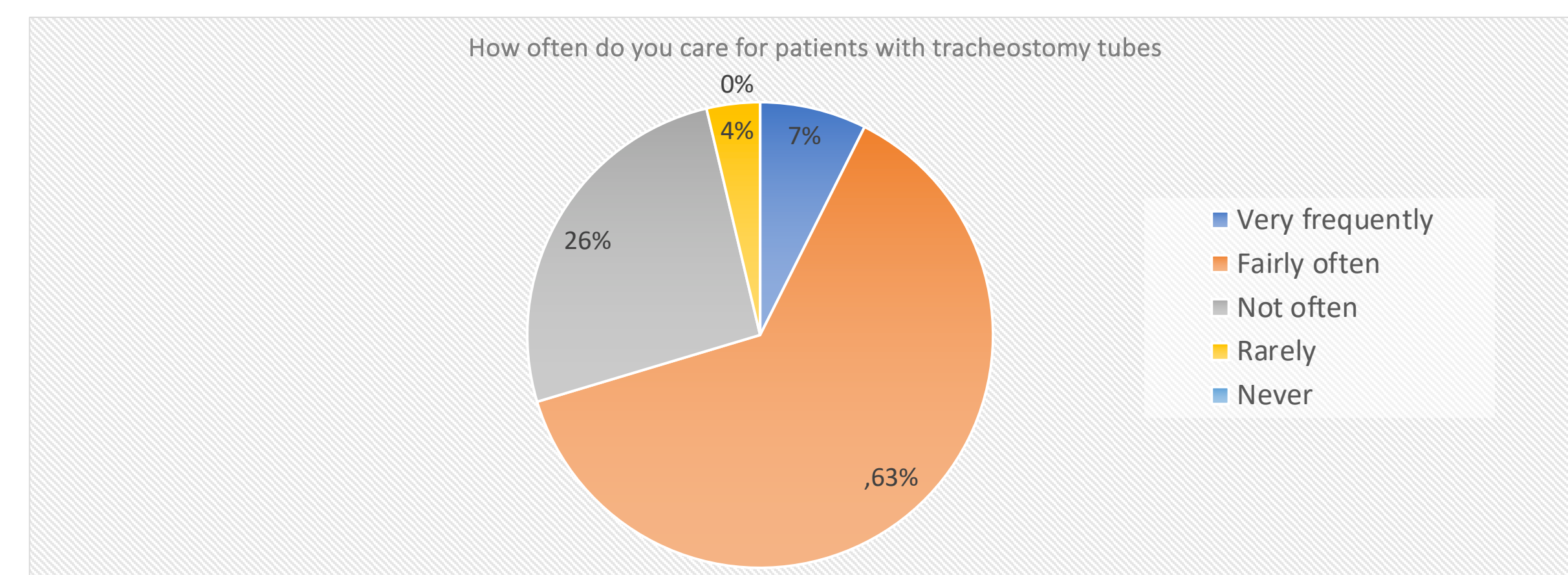


Figure 2: Exposure to tracheostomy tubes in current practice

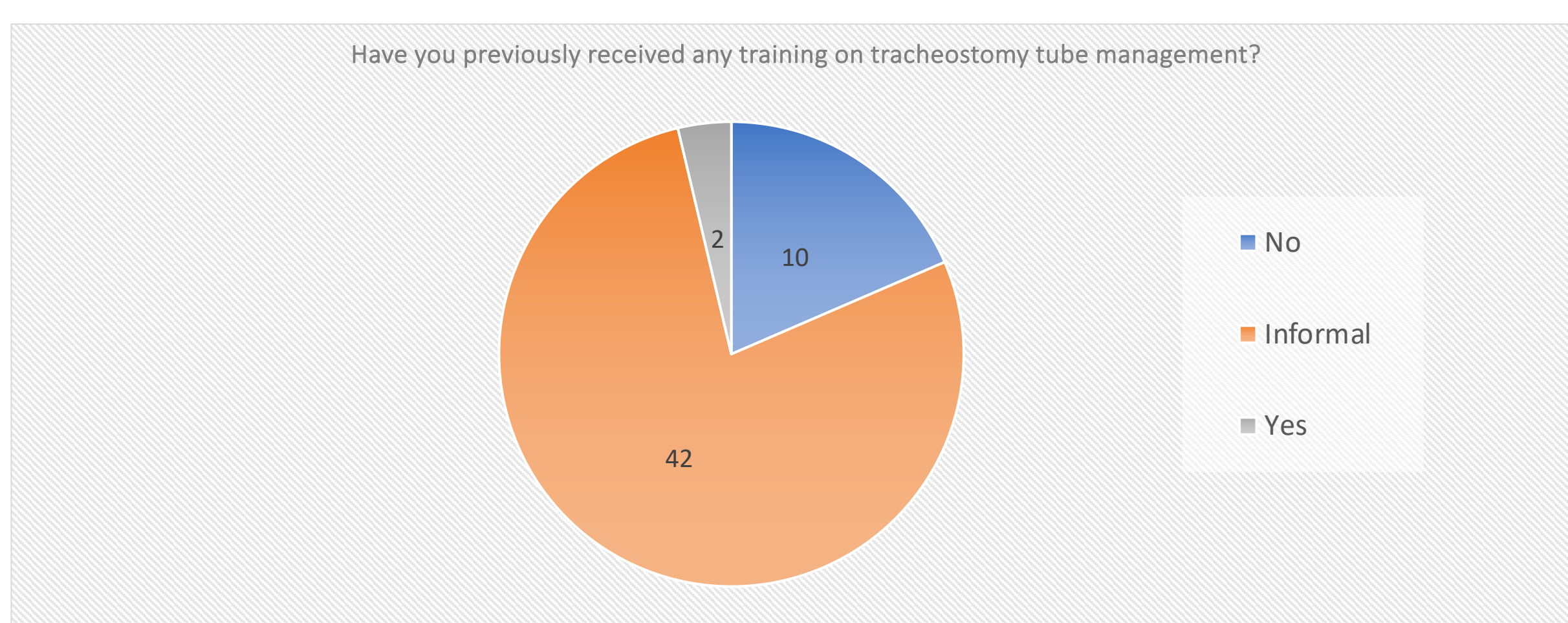


Figure 3: Level of previous tracheostomy tube training prior to current intervention

- Knowledge assessment involved questions in regards to tracheostomy tube parts/uses, initial work up for respiratory distress in tracheostomy tube dependent patients, management of common complication scenarios and management of laryngectomy patients
  - All were significantly improved on the post survey
  - **Based on anecdotal feedback, two patient's lives were saved by following the principles presented**
  - 100% of responders felt that subspecialists education improved understanding of complex problems

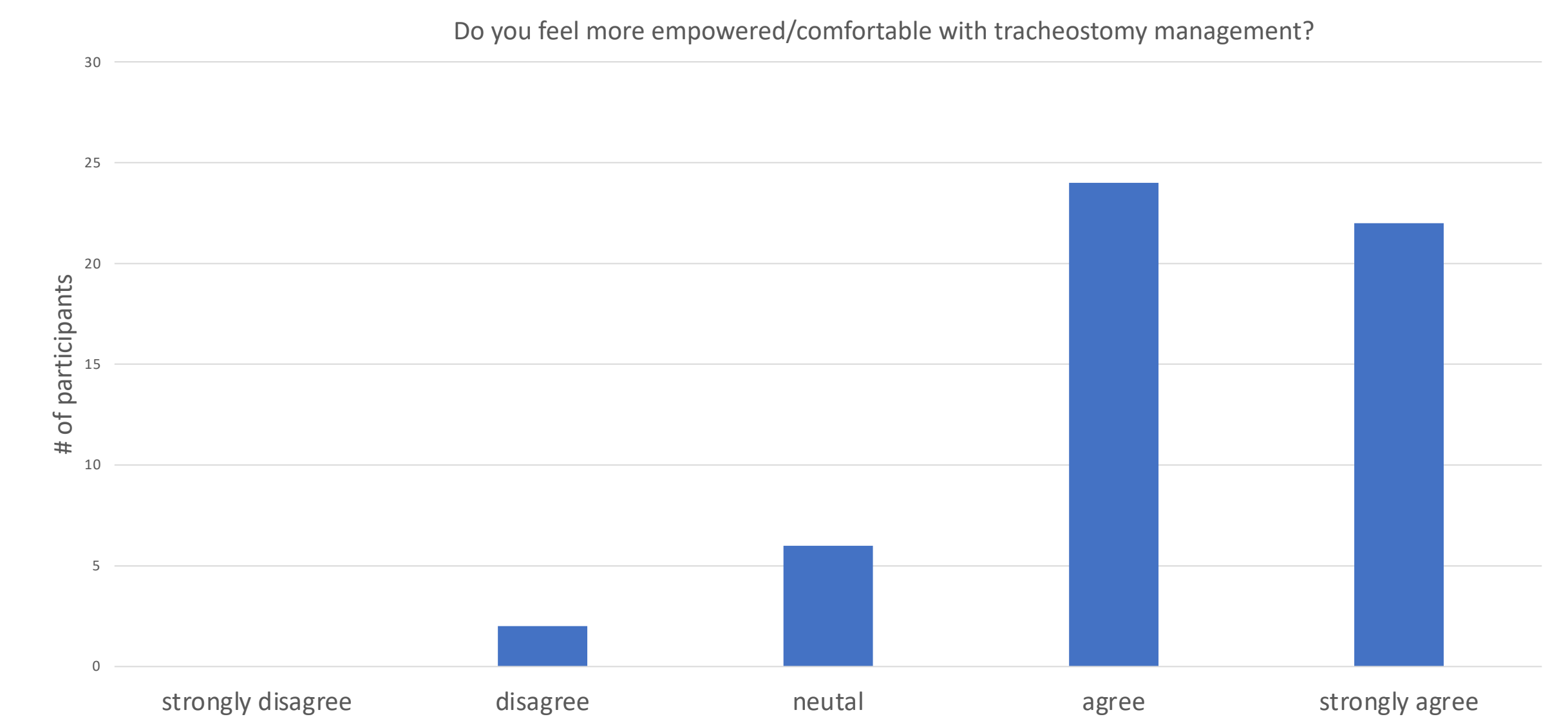


Figure 4: Level of encouragement/empowerment after lecture graded on Likert scale

## Discussion

- There is an obvious immediate benefit in regards to nonsurgical resident education and patient care if we educate on complex topics
- There is a role of real time education-participating in consultations
  - Teaching laryngoscopy/tracheoscopy
  - Four of the above responders participated in trach-related consults and reported improved understanding of tracheostomy tube management
    - Endorsed the need for both simulation as well as real time learning
- Subspecialty education is desired by general physicians
- Interdepartmental education is beneficial for both patient and resident physician
- We should seek to educate others on areas related to Otolaryngology
- Interdepartmental education not only leads to better education but more confidence and comfort in managing patients

## Conclusions

- Tracheostomy tube education by Otolaryngologists to nonsurgical physicians is both desired and beneficial
- There is a significant improvement in understanding of tracheostomy basics and management
- While immediate benefits are clearly seen, there are further measures that must be taken to ensure retention of the information

## Contact

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