

BACKGROUND

- Tracheal intubation (TI) is a required skill for neonatal-perinatal medicine (NPM) fellows
- Fellows achieve TI competency at variable times during training
- The optimal approach to TI training is unknown

SPECIFIC AIMS

1. Characterize US NPM fellowship TI education & assessment practices
2. Explore how NPM fellowship size & educational resource availability impact TI education

METHODS

- Cross-sectional study of all US NPM fellowship programs in Sept 2022
- 32 item survey created after iterative review by 6 national NPM education experts
- Pearson's  $\chi^2$  and Fisher's exact test were used for analysis

Table 1. Demographics

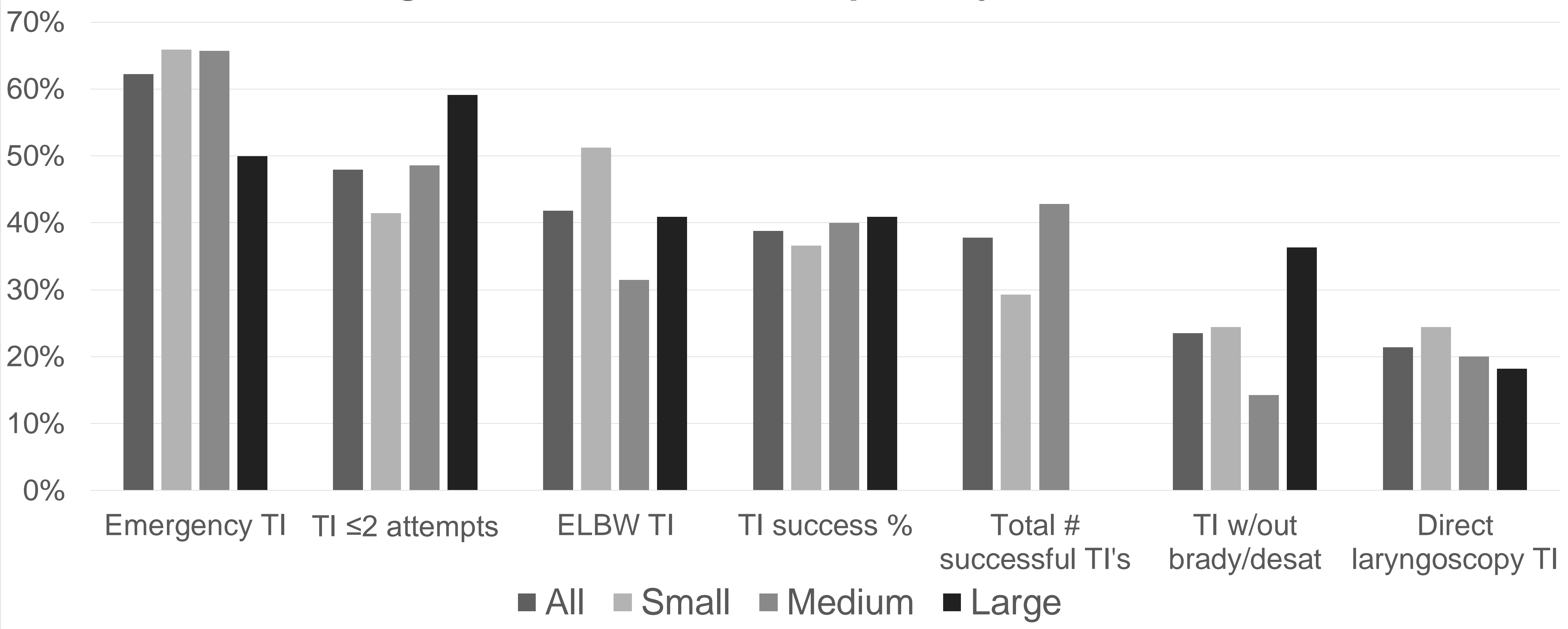
		N=98
Respondent program size		
Small ( $\leq 6$ fellows)	41 (42%)	
Medium (7-9 fellows)	35 (36%)	
Large ( $\geq 10$ fellows)	22 (22%)	
Respondent role		
Program director	76 (78%)	
Associate program director	18 (18%)	
Other NPM faculty	4 (4%)	
Pre-clinical TI training provided to 1 <sup>st</sup> year fellows		
Yes	88 (90%)	
No	10 (10%)	
Manikin or simulation use for TI training		
Yes	95 (97%)	
No	2 (2%)	
Unsure	1 (1%)	
Formal policy to prioritize fellows for TI attempts		
Yes	61 (62%)	
No	37 (38%)	
Minimum # of successful TI's required for graduation		
Yes	20 (20%)	
No	73 (74%)	
Unsure	5 (6%)	

RESULTS

Table 2: TI curriculum & institutional characteristics

		Somewhat Unsatisfied or Somewhat Satisfied (N=69)	Very Satisfied (N=29)	p-value
Educational barriers identified	Time constraints	43 (62.32%)	10 (34.48%)	0.012
	Equipment availability	14 (20.29%)	1 (3.45%)	0.036
Lectures given	TI premedication	48 (69.57%)	26 (89.66%)	0.041
	Difficult airway management	36 (52.17%)	23 (79.31%)	0.012
Clinical orientation education methods	Airway anatomy lesson	23 (33.33%)	17 (58.62%)	0.020
	TI videos	17 (24.64%)	14 (48.28%)	0.022
	Video laryngoscope (VL) use during simulation	28 (40.58%)	19 (65.52%)	0.024
Clinical orientation airway skills taught	Nasal TI	5 (7.25%)	9 (31.03%)	0.004
	VL use	27 (39.13%)	24 (82.76%)	<0.001
	Oral airway placement	25 (36.23%)	23 (79.31%)	<0.001
	Tracheostomy management	6 (8.70%)	10 (34.48%)	0.002
	Tracheostomy changes	5 (7.25%)	10 (34.48%)	0.001
	Critical airway management	19 (27.54%)	16 (55.17%)	0.009
	TI premedication	33 (47.83%)	22 (75.86%)	0.011
	Minimally invasive surfactant therapy	12 (17.39%)	11 (37.93%)	0.029
	VL use	49 (71.01%)	26 (89.66%)	0.041
TI assessment method	Local quality improvement data	3 (4.35%)	6 (20.69%)	0.018

Figure 1: Preferred TI competency definitions



RESULTS

- 89% NPM program response rate (98/110) (Table 1)
- Differences between higher & lower satisfaction levels shown in Table 2
- Large programs report higher airway curriculum satisfaction (p=0.009) & more hands-on TI training during clinical orientation (p=0.012)
- Highest satisfaction associated with fewer educational barriers (time p=0.012; equipment p=0.036)
- TI competency typically reviewed every 6 months
- Preferred TI competency definitions are variable (Figure 1)
- Expected TI success rates by graduation (median=80%, IQR 75-85) are variable

CONCLUSIONS

Significant variability exists in educational curricula & resources for TI training in US NPM fellowships

Large fellowship programs report greater TI curricular satisfaction

Fellow TI competency is poorly defined & reviewed infrequently

Future investigation is needed to determine which TI educational & assessment practices correlate with improved clinical performance

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