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Introduction

The Respiratory Distress Observation Scale, (RDOS), is an objective assessment tool that relies on vital signs and physical behavioral cues to measure a patient's level of dyspnea when they are unable to self-report (Campbell, 2010).

Elements: Heart rate, respiratory rate, restlessness, paradoxical breathing pattern, accessory muscle use, grunting, nasal flaring, look of fear (Campbell, 2010).

Patients experiencing mental status changes and/or alterations in levels of consciousness are at risk for under-recognition of symptoms of respiratory distress that could be relieved with palliative interventions (Campbell, 2010).

Background & Significance

Dyspnea is the second leading cause of trips to the ED for patients aged 65 and older (Hunold et al., 2020).

Many patients visit the ED for assistance with symptom management relative to chronic and end-stage illness, which is often less understood by ED nurses and providers (Long, Koyfman, & Long, 2020).

Missed opportunities for symptom management that focus primarily upon respiratory systems in the context of a global pandemic can lead to an increase in patient suffering and poor outcomes.

Nurses were educated on the target population for which this tool was designed, but they were encouraged to assess all patients with the RDOS tool, regardless of the patient's ability to self-report.

Theoretical Framework

Each step of the project was guided by each of the 5 criteria of the RE-AIM framework, an evaluative framework that determines the translatability & impact of health promotion interventions at individual & institutional levels (Glasgow et al., 1999).



Clinical Question

Does improving Emergency Department nurse awareness of the respiratory distress observation scale (RDOS) increase the frequency of its use over baseline and subsequent opioid/benzodiazepine administration for patients in the ED with a diagnosis of shortness of breath, respiratory failure, respiratory distress, or dyspnea?

Methodology

Design: QI project, pre/post, chart review

Setting: Level 1 Trauma ED, New Jersey

Population: 125 Nurses & 125 Patient charts

Aims/Goals: Improve nurse use, comfort, and awareness of RDOS tool & reduce barriers; increase palliative medication administration

Consent/Ethics: Minimal risk, waiver of consent documentation

Intervention: Huddle topic, reference posters, relocation of tool

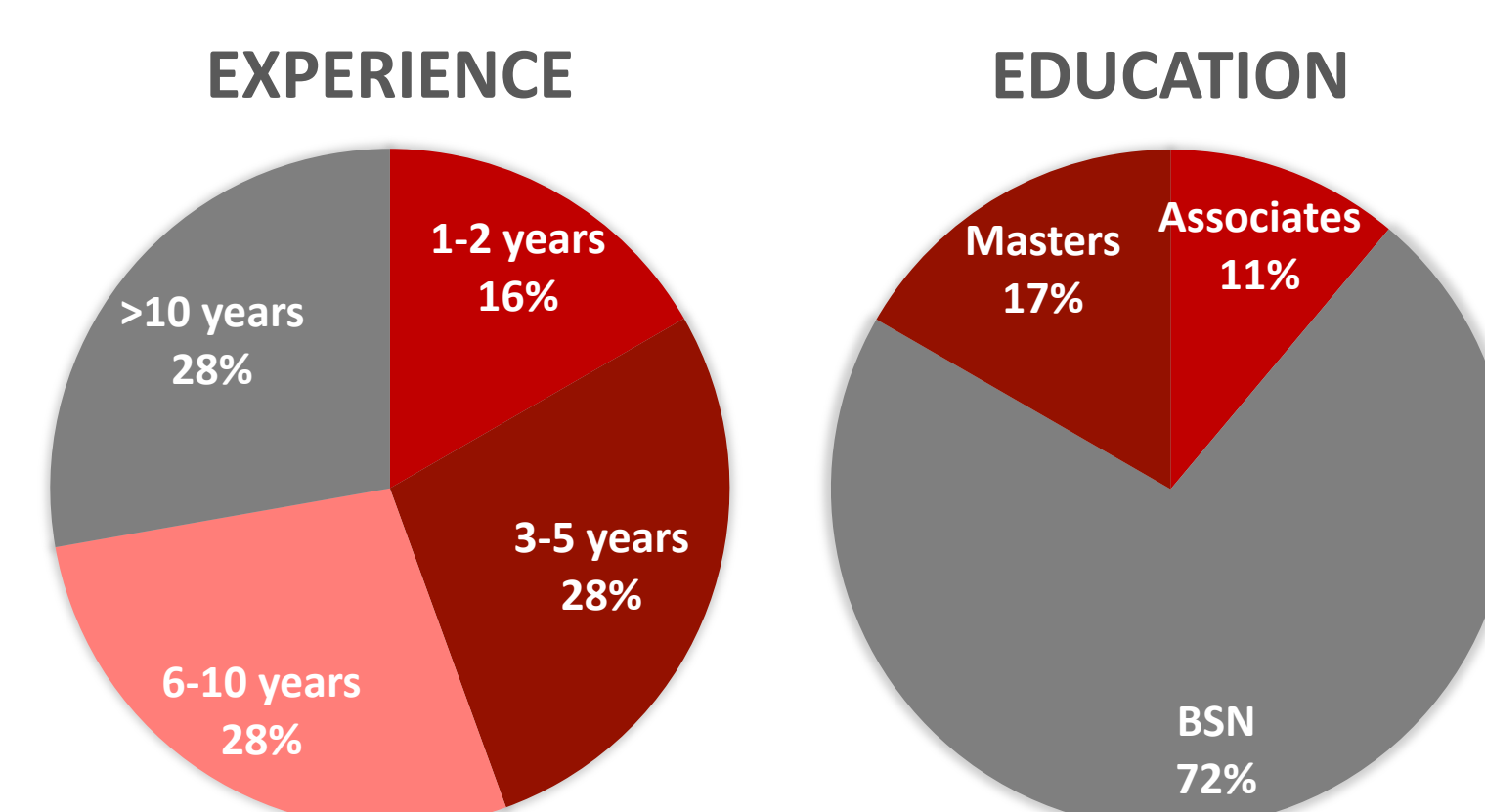
Outcome Measures: RDOS use, medication administration, pre/post-intervention survey responses

Results

18 participants responded to **both** surveys.

Experience was well-distributed.

Respondents were mostly full-time, BSN-prepared, females.



Average comfort & knowledge scores increased; knowledge scores increased significantly (p=0.009).

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Comfort_Post	8.22	18	1.700	.401
	Comfort_Pre	8.11	18	1.530	.361
Pair 2	Knowledge_Post	3.06	18	1.056	.249
	Knowledge_Pre	2.17	18	1.200	.283

	Knowledge_Post - Knowledge_Pre	Comfort_Post - Comfort_Pre
Z	-2.623 ^b	-.105 ^b
Asymp. Sig. (2-tailed)	.009	.917

a. Wilcoxon Signed Ranks Test
 b. Based on negative ranks.

Results

Location remained as the only significant barrier in the post-intervention survey (n = 4).

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
None	6	33.3	33.3	33.3
Location	5	27.8	27.8	61.1
Know&Location	5	27.8	27.8	88.9
Time&Location	1	5.6	5.6	94.4
Knowledge	1	5.6	5.6	100.0
Total	18	100.0	100.0	

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
None	13	72.2	72.2	72.2
Location	4	22.2	22.2	94.4
Know&Time&Location	1	5.6	5.6	100.0
Total	18	100.0	100.0	

Pre-Intervention survey: Aggregate	Post-Intervention survey: Aggregate
• 50 participants	• 34 participants
• Mostly Female, FT, BSN	• No demographics were collected
• RDOS usage varied	• RDOS usage: most stated "yes"
• Barriers: location	• Barriers: mostly none
• Majority knowledge score: 50%	• Majority knowledge score: 75%
• Majority comfort score: 8/10	• Majority comfort score: 9/10
• Prior use correlated with knowledge (t = -3.074; p = 0.002)	• No relationship between use, comfort, and knowledge

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
None	20	40.0	40.0	40.0
Location	13	26.0	26.0	66.0
Know&Location	12	24.0	24.0	90.0
Time&Location	2	4.0	4.0	94.0
Knowledge	2	4.0	4.0	98.0
Know&Time	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
None	23	67.6	67.6	67.6
Location	8	23.5	23.5	91.2
Time&Location	1	2.9	2.9	94.1
Know&Time&Location	1	2.9	2.9	97.1
Time	1	2.9	2.9	100.0
Total	34	100.0	100.0	

		Levene's Test for Equality of Variances		t-test for Equality of Means		Significance		Mean Difference		Std. Error Difference		95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper		
PRE_Knowledge	Equal variances assumed	.797	.378	-3.074	38	.002	.004	-.837	.272	-1.388	-.286		
	Equal variances not assumed			-3.053	36.054	.002	.004	-.837	.274	-1.393	-.281		
PRE_Comfort	Equal variances assumed	.718	.402	-1.477	38	.074	.148	-.739	.500	-1.752	.274		
	Equal variances not assumed			-1.480	37.783	.074	.147	-.739	.500	-1.751	.272		

Pre/Post Survey Knowledge & Comfort Scores

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Pre_Know	2.3000	50	.93131	.13171
Pre_Comfort	8.0400	50	1.53809	.21752
Pair 2 Knowledge	2.9118	34	.96508	.16551
Comfort	8.4412	34	1.41830	.24324

Discussion

Limitations: Poor use of the RDOS pre- & post-intervention; limited RN sample size; chaotic & distracting ED environment; seasonal considerations; RN feedback & stated behaviors did not reflect documentation behavior

Unintended Consequences: Enhanced interdisciplinary communication; prolonged huddle time, delayed shift start

Facilitators: Site leadership and Research Council; availability of patient charts that met inclusion criteria

Barriers: Staff turnover & agency nurses; poor RN morale & participation; forgotten unique identifiers; insufficient pre/post completion rates led to incomplete analysis

Implications

Clinical Practice: Nursing knowledge & experience do not always correlate with usage of an assessment tool. Improving knowledge of a palliative-related assessment tool may not impact nurse comfort with providing palliative treatment. Dyspnea is underestimated in nonverbal patients (Binks, Desjardin, & Riker, 2017).

Healthcare Policy: Assessments that are not required by an organization, such as the RDOS, will likely remain incomplete as nurses spend increased time documenting in the EMR (Moore, Tolley, Bates, & Slight, 2020).

Quality & Safety: Chaotic ED environments contribute to disconnected communication, inconsistent assessment methods, misdiagnoses, and poor follow-up documentation (Johnson, Mueller, & Winkelman, 2016). Nurses in this project identified multiple methods of documenting dyspnea, suggesting inconsistent practice

Education: The informative content from this project would be useful at the start of a nursing career or during nursing orientation. It may be helpful to involve visitors and family members in shared decision making by explaining the purpose of the RDOS in measuring the impact palliative interventions have on their loved ones.

Economic: Positive patient experiences lead to higher reimbursement rates (CMS, 2020). The Center for Medicare & Medicaid Services recognizes screening and treating dyspnea as 2 quality measures for hospice & palliative care services (CMS, 2020).

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