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I) Study Survey

Supplementary X. Overview of surveys domains exploring management of acute asthma exacerbations

Domain 1	**Respondents' characteristics**	**This includes age, geographic region, specialty, years of experience, clinical position and academic degree (if present), affiliation, as well as the level of the health care facility through which a respondent provides care to patients presenting with acute asthma exacerbations.**
Domain 2	**Diagnosis & triage decisions for ASA**	Respondents are to report whether their reliance is wholly on clinical judgement or on tools provided by certain local or international practice guidelines when it comes to identifying asthma patients in acute exacerbations and deciding upon ER admission or ICU referral.
Domain 3	**Pharmacological management**	This domain aims to measure the respondents' knowledge about different pharmacological therapies administrated during acute asthma exacerbations, their usual practice as governed by local policies and resources, as well as their individual preferences towards certain approaches, to detect gaps between knowledge and practice. Drugs including bronchodilators, systemic steroids, antibiotics, and anti-histaminic are to be inquired about regarding frequency of use, method of administration, prescribed doses, and ideal/preferred alternatives. Use of other drugs like magnesium sulphate, theophylline, epinephrine, inhaled anaesthetics and intravenous ketamine is to be verified, and respondents are asked to report their knowledge about whether the use of any of these drugs is endorsed by any clinical practice guidelines they are aware of.
Domain 4	**Oxygen therapy & HFNC**	This domain screens the knowledge of the respondents about indications of oxygen administration during acute asthma exacerbations, explores their attitude towards the choice of oxygen delivery system. Familiarity of respondents with the settings of HFNC, barriers towards its use, as well as physicians' preferences regarding HFNC are also explored.
Domain 5	**Non-invasive ventilation**	Access to NIV, frequency of its use, the available NIV devices, and the preferred NIV mode and interfaces by a respondent are inquired about. Respondents' knowledge of the physiological rationales behind using NIV, the appropriate settings of NIV for patients presenting with acute asthma exacerbations, and how to address the main problems arising in such patients are challenged. Knowledge, attitudes and respondents' preferences towards use of sedation during NIV in critically ill asthmatics, knowledge of the best approach to deliver nebulized drugs during NIV, understanding of NIV interference with nebulization therapy, as well as individual preferences regarding the method of delivery are all explored. Barriers to the use of NIV for acute asthma exacerbations, and potential complications associated with its application are also investigated.
Domain 6	**Invasive mechanical ventilation**	Respondents are inquired about frequency of application of IMV in acute asthma exacerbations, the units where IMV is provided, their knowledge about pathophysiology of severe asthma exacerbations, the appropriate mode and settings of MV, the role of sedation and neuromuscular blockade and the respondents' attitudes and preferences towards the use of these drugs and monitoring patients whilst administration of these drugs are explored. Adjustment of ventilatory settings prior to administration of nebulized drugs and frequency of complications during MV of acute asthma exacerbations are inquired about as well.
Domain 7	**Outcomes of acute asthma exacerbations**	Respondents' knowledge about possible predictors of prognosis of patients presenting with asthma exacerbations is assessed

ASA: Acute severe asthma, ER/CCM: Emergency/Critical Care Medicine, ICU: intensive care unit, HFNC: high-flow nasal cannula, NIV: non-invasive ventilation, IMV: invasive mechanical ventilation, MV: mechanical ventilation

II) Supplementary Tables

Supplementary Table A1. Respondents' attitudes & knowledge regarding use of adjuvant medications in ASA

	Total (93)	Pulmonologists (66)	ER/CCM physicians (22)	*P* value	OR (95% CI)
Use of adjuvant medications[α]	**(n = 93)**	**(n = 66)**	**(n = 22)**		
Magnesium sulphate	84 (90.9%)	60 (90.9%)	20 (90.9%)	>0.999	1.0 (0.2–5.3)
Aminophylline	54 (58.1%)	36 (54.5%)	16 (72.7%)	0.210	0.5 (0.2–1.3)
Epinephrine	25 (26.9%)	12 (18.2%)	12 (54.5%)	**0.002***	**0.2 (0.1–0.5)**
Ketamine	12 (12.9%)	4 (6%)	8 (36.4%)	**0.001***	**0.1 (0.03–0.4)**
Inhaled anaesthetics	7 (7.5%)	2 (3%)	5 (22.7%)	**0.010***	**0.1 (0.02–0.6)**
Heliox	8 (8.6%)	5 (7.6%)	3 (13.6%)	0.407	0.5 (0.1–2.4)
Immunotherapy	9 (9.7%)	7 (10.6%)	2 (9.1%)	>0.999	1.2 (0.2–6.1)
Mechanism of heliox action	**(n = 92)**	**(n = 65)**	**(n = 22)**		
Decrease air density	43 (46.74%)	32 (49.2%)	10 (45.5%)	0.809	1.2 (0.4–3.1)
Improve oxygen delivery	24 (26.09%)	18 (27.7%)	5 (22.7%)	0.783	1.3 (0.4–4.1)
Direct bronchodilatation	21 (22.83%)	13 (20%)	6 (27.3%)	0.553	0.7 (0.2–2.0)
Attenuation of vagal tone	4 (4.35%)	2 (3.1%)	1 (4.5%)	>0.999	0.7 (0.1–7.7)
Evidence status-adjuvant medications[β]	**(n = 93)**	**(n = 66)**	**(n22)**		
Magnesium sulphate	84 (90.32%)	60 (90.9%)	17 (77.3%)	0.133	2.9 (0.8–10.8)
Aminophylline	54 (58.06%)	27 (40.9%)	11 (50.0%)	0.469	0.7 (0.3–1.8)
Epinephrine	25 (26.88%)	10 (15.2%)	6 (27.3%)	0.215	0.5 (0.2–1.5)
Ketamine	12 (12.90%)	5 (7.6%)	3 (13.6%)	0.407	0.5 (0.1–2.4)
Inhaled anaesthetics	7 (7.53%)	3 (4.5%)	2 (9.1%)	0.595	0.5 (0.1–3.1)
Heliox	8 (8.06%)	9 (13.6%)	6 (27.3%)	0.190	0.4 (0.1–1.4)

[α]: (Y/N response was required. multiple responses were permitted. [β]: respondents instructed to verify evidence-based approval of each category. [*]: indicates a significant *P* value <0.05.
ASA: acute severe asthma, ER/CCM: Emergency/Critical Care Medicine

Supplementary Table A2. Respondents' attitudes towards oxygen therapy in management of ASA

	Total (93)	Pulmonologists (66)	ER/CCM physicians (22)	*P* value	OR (95% CI)
Indications for oxygen therapy[α]	**(n = 93)**	**(n = 66)**	**(n = 22)**		
Treatment of respiratory failure	38 (59.14%)	41 (62.1%)	10 (45.5%)	0.215	2.0 (0.7–5.2)
Relieving hypoxaemia	58 (62.37%)	39 (59.1%)	14 (63.6%)	0.804	0.8 (0.3–2.2)
Relief of respiratory distress	25 (26.88%)	17 (25.8%)	6 (27.3%)	>0.999	0.9 (0.3–2.7)
As a driving gas to deliver nebulized drugs	15 (16.30%)	10 (15.2%)	4 (18.2%)	0.743	0.8 (0.2–2.9)
Oxygen use without respiratory failure	32 (34.14%)	22 (33.3%)	9 (40.9%)	0.522	0.7 (0.3–1.9)
Oxygen delivery system "mostly" used[α]	**(n = 92)**	**(n = 65)**	**(n = 21)**		
Low-flow nasal cannula[β]	43 (47.25%)	16 (24.6%)	6 (28.6%)	0.422[Ω]	1.5 (0.5–4.3), *P* = 0.454[Θ]
Simple face mask	37 (40.21%)	11 (16.9%)	3 (13.6%)[δ]	0.882[Ω]	0.8 (0.3–2.0), *P*=0.620[Θ]
Venturi mask	45 (48.91%)	23 (34.8%)[γ]	1 (4.8%)	**0.023*[Ω]**	**0.02 (0.0–0.4), *P*=0.10[ϑ]**
Non-rebreather mask[β]	16 (17.58%)	6 (9.2%)	1 (4.8%)	**0.007*[Ω]**	**0.2 (0.1–0.7), *P*=0.013[Θ]**
Availability of HFNC/HVNI[†]	87 (93.55%)	62 (93.9%)	22 (100%)	0.568	I/A
Frequency of use of HFNC/HVNI	**(n = 93)**	**(n = 66)**	**(n = 22)**		
Never or infrequently	22 (23.66%)	18 (27.3%)	2 (9.1%)	0.130[Ω]	0.5 (0.2–1.3), *P*=0.173[Θ]
Sometimes	44 (47.31%)	32 (48.5%)	11 (50%)		
Usually or mostly	27 (29.03%)	16 (24.2%)	9 (40.9%)		
Location of use of HFNC[α]	**(n = 93)**	**(n = 66)**	**(n = 22)**		
ICU	78 (83.8%)	54 (81.8%)	20 (90.9%)	0.503	0.5 (0.1–2.1)
ER	25 (26.8%)	18 (27.3%)	5 (22.7%)	0.784	1.3 (0.4–3.4)
Ward	24 (25.8%)	19 (18.8%)	3 (13.6%)	0.225	2.6 (0.7–9.7)
Causes hindering use of HFNC/HVNI[α]	**(n = 76)**	**(n = 52)**	**(n = 20)**		
Unavailability	35 (46%)	22 (42.3%)	10 (50%)	0.604	0.7 (0.3–2.1)
Unfamiliarity	13 (17%)	5 (9.6%)	4 (20%0	0.252	0.4 (0.1–1.8)
Limited experience	13 (17%)	9 (17.3%)	2 (10%)	0.716	1.9 (0.4–10.0)
Maintenance cost[ε]	10 (13.3%)	7 (13.7%)[η]	3 (15%)	>0.999	0.9 (0.2–3.9)
Ineffectiveness in ASA	5 (6.6%)	3 (5.3%)	2 (10%)	0.613	0.6 (0.1–3.6)
High risk	3 (3.9%)	2 (66.7%)	1 (5%)	>0.999	0.8 (0.1–8.9)
Lack of evidence	7 (9.2%)	6 (85.7%)	1 (5%)	0.665	2.5 (0.3–22.0)
Unauthorized[θ]	5 (6.8%)	3 (6.1%)[κ]	2 (10%)	0.623	0.6 (0.1–3.8)
Choice between HFNC/HVNI or NIV[α]	**(n = 91)**	**(n = 64)**	**(n = 22)**		
Patient's preference	31 (34%)	23 (35.9%)	7 (31.8%)	0.800	1.2 (0.3–4.4)
Physician's personal preference	16 (17.5%)	8 (12.5%)	5 (22.7%)	0.303	0.5 (0.1–1.7)
Level of experience in either modality	14 (15.3%)	9 (14.1%)	3 (13.6%)	>0.999	1.0 (0.3–4.2)
Severity of ASA[λ]	70 (81.4%)	52 (83.9%)[μ]	15 (75%)[π]	0.506	1.7 (0.5–5.9)
Oxygen Flow rate-HFNC/HNVI (L/min.)[χ]	40 (30–50)	40 (38–50)	40 (15–50)	0.113	0.25[ϑ] (0.07:0.57)
FiO_2 used for HFNC/HVNI (%)[ω]	50 (40–63)	50 (40–68)	60 (40–60)	0.459	0.14[ϑ] (-0.17:0.46)

[†]: response rate 100% for the total (n = 93) and subgroups (n = 66 and 22 respectively). [α]: multiple responses were permitted, [β]: 91 responses, [γ]: 66 responses, [δ]: 22 responses, [μ], [ε]: 75 responses, [η]: 51 responses, [θ]: 73 responses, [κ]: 49 responses, [λ]: 86 responses, [μ]: 62 responses, [π]: 20 responses, [χ]: 61 responses (41& 19 for the subgroups included in analysis), [ω]: 60 responses (40& 19 for the included subgroups), [Ω]: *P* value calculated for 2-by-5 tables (two groups across 5 frequency categories), [ϑ]: odds of ER/CCM physicians (compared to pulmonologists) rating use of Venturi as "mostly' over' other use frequencies', [Θ]: odds of pulmonologists (compared to ER/CCM physicians) rating use of HFNC/NRM as 'usually/mostly' over 'other use frequencies', [ϑ]: rank biserial correlation (r) for effect size. [*]: indicates a significant *P* value <0.05.
ASA: acute severe asthma, ER/CCM: Emergency/Critical Care Medicine, HFNC/HVNI: high flow nasal cannula/high velocity nasal insufflation

Supplementary Table A3. Comparing respondents views and preferences regarding IMV mode and sedation titration options for patients with ASA (extended comparisons)

	Total (93)	Pulmonologists (66)	ER/CCM physicians (22)	*P* value	OR (95% CI)
The most physiological mode	**(n = 92)**	**(n = 65)**	**(n = 22)**		
Pressure-controlled modes	25 (27.17%)	19 (29.2%)	5 (22.7%)	0.363[Ω]	OR[1] = 2.7 (0.6–12.3), *P* = 0.178 OR[2] = 0.9(0.3–3.2), *P* > 0.999 OR[3] = 0.3 (0.1–1.4), *P* = 0.140 OR[4] = 0.4 (0.1–1.6), *P* = 0.218 OR[5] = 2.5 (0.5–12.5), *P* = 0.395 OR[6] = 0.9 (0.5–5.1), *P* > 0.999
Volume-controlled modes	13 (14.13%)	7 (10.7%)	5 (22.7%)		
Dual modes	11 (11.96%)	6 (9.2%)	4 (18.2%)		
Case-by-case	43 (46.74%)	33 (50.7%)	8 (36.4%)		
The most successful mode	**(n = 92)**	**(n = 65)**	**(n = 22)**		
Pressure-controlled modes	28 (30.43%)	22 (33.8%)	5 (22.7%)	0.844[Ω]	OR[1] = 1.6 (0.4–7.1), *P* = 0.698 OR[2] = 1.8 (0.5–6.2), *P* = 0.382 OR[3] = 1.1 (0.3–4.4), *P* > 0.999 OR[4] = 1.1 (0.2–5.1), *P* > 0.999 OR[5] = 1.7 (0.3–8.5), *P* = 0.667 OR[6] = 1.0 (0.2–6.0), *P* > 0.999
Volume-controlled modes	16 (17.39%)	11 (16.9%)	4 (18.2%)		
Dual modes	12 (13.04%)	8 (12.3%)	3 (13.6%)		
Differs from patient to patient	36 (39.13%)	24 (36.9%)	10 (45.5%)		
Tools used to titrate sedation	**(n = 89)**	**(n = 62)**	**(n = 22)**		
Clinical judgement	26 (29.21%)	22 (35.5%)	3 (13.6%)	**0.044*[Ω]**	**OR[7] = 6.5 (1.4–30.1), *P* = 0.029*** OR[8] = 1.8 (0.3–10.5), *P* = 0.654 OR[9] = 4.1 (0.7–23.4), *P* = 0.167 OR[10] = 2.4 (0.5–12.7), *P* = 0.401 OR[11] = 2.3 (0.4–13.3), *P* = 0.407 OR[12] = 0.8 (0.4–1.2), *P* > 0.999 OR[13] = 1.7 (0.3–9.1), *P* = 0.675
RASS	17 (19.10%)	12 (19.4%)	3 (13.6%)		
CAM-ICU score	11 (12.36%)	7 (11.3%)	4 (18.4%)		
GCS	16 (17.98%)	12 (19.4%)	4 (18.4%)		
Clinical judgement with another tool	19 (21.35%)	9 (14.5%)	8 (36.4%)		
Tools used to titrate sedation	**(n = 92)**	**(n = 65)**	**(n = 22)**		
Clinical judgement	21 (22.83%)	15 (23.1%)	3 (13.6%)	0.658[Ω]	OR[7] = 1.6 (0.3–7.7), *P* = 0.702 OR[8] = 2.7 (0.6–12.0), *P* = 0.290 OR[9] = 2.5 (0.4–16.0), *P* = 0.367 OR[10] = 1.2 (0.2–6.7) *P* > 0.009 OR[11] = 0.9 (0.2–4.8), *P* > 0.999 OR[12] = 2.3 (0.5–10.5), *P* = 0.471 OR[13] = 2.2 (0.3–14.1), *P* = 0.630
RASS	24 (26.09%)	15 (23.1%)	8 (36.4%)		
CAM-ICU score	9 (9.78%)	6 (9.2%)	3 (13.6%)		
GCS	17 (18.84%)	13 (20%)	3 (13.6%)		
Clinical judgement with another tool	21 (22.83%)	16 (24.6%)	5 (22.7%)		

[1]: odds for pulmonologist to choose PC over VC mode (compared to ER/CCM physicians), [2]: PC mode over case-by-case selection (or patient-to-patient), [3]: VC mode over case-by-case, [4]: dual modes over case-by-case, [5]: PC mode compared to dual modes, [6]: VC mode over dual modes
[7]: odds for pulmonologists to opt for clinical judgement over clinical judgement with other tool compared to ER/CCM physicians, [8]: clinical judgement over RASS, [9]: clinical judgement over CAM-ICU, [10]: clinical judgement over GCS, [11]: RASS over CAM-ICU, [12]: GCS over RASS [13]: GCS over CAM-ICU
[Ω]: *P* value calculated for 2-by-4 or 2-by-5 tables (two groups across 4 or 5 categories). [*]: indicates a significant *P* value <0.05.
ASA: acute severe asthma, IMV: invasive mechanical ventilation, ER/CCM: Emergency/Critical Care Medicine, RASS: Richmond's agitation-sedation scale, GCS: Glasgow coma scale, CAM-ICU: confusion assessment method in ICU, VAP: ventilator-associated pneumonia

Supplementary Table A4. Respondents' beliefs about factors associated with adverse outcomes in patients with ASA(α)

	No correlation	Weak correlation	Moderate correlation	Strong/perfect correlation
Older age[β]	3 (3.33%)	8 (8.89%)	23 (25.56%)	56 (62.22%)
Comorbidities[β]	2 (2.22%)	2 (2.22%)	17 (18.89%)	69 (76.66%)
Multiple organ failure[β]	1 (1.11%)	1 (1.11%)	15 (16.67%)	73 (81.11%)
Severity of asthma[β]	1 (1.11%)	1 (1.11%)	16 (17.78%)	72 (80.00%)
Presence of pneumonia[β]	1 (1.11%)	1 (1.11%)	19 (21.11%)	69 (76.66%)
Cardiac arrest[γ]	2 (2.20%)	3 (3.30%)	14 (15.38%)	72 (79.12%)
Acidemia[γ]	2 (2.20%)	5 (5.49%)	21 (23.08%)	63 (69.23%)
Previous hospitalization[γ]	2 (2.20%)	6 (6.59%)	29 (31.87%)	54 (59.34%)
Previous intubations[γ]	2 (2.20%)	3 (3.30%)	26 (28.57%)	60 (65.93%)

[α]: multiple responses were permitted, [β]: 90 responses, [γ]: 91 responses

Supplementary Table A5. Predictors of use of predefined criteria for triage decisions for patients with ASA (n = 88)(α)

	ASA diagnosis		ER admission		ICU referral	
	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value
	Univariate analysis		Univariate analysis		Univariate analysis	
Specialty: pulmonologist	4.0 (1.5–11.1)	**0.007***	3.2 (1.1–9.2)	**0.031***	4.8 (1.5–15.6)	**0.010***
Years of experience	1.0 (0.9–1.0)	0.974	1.0 (1.0–1.1)	0.622	1.0 (0.9–1.0)	0.663
Position						
Consultant	3.6 (1.0–12.3)	**0.041***	6.9 (1.6–28.9)	**0.008***	4.7 (1.1–19.5)	**0.034***
Specialist	1.8 (0.6–5.5)	0.308	5.8 (1.4–23.4)	**0.013***	5.3 (1.3–21.1)	**0.019***
Highest academic degree						
MSc.	0.6 (0.2–2.1)	0.483	2.4 (0.7–8.3)	0.115	1.0 (0.3–3.4)	0.932
PhD	0.8 (0.2–2.9)	0.714	2.2 (0.6–7.9)	0.226	0.8 (0.2–2.9)	0.806
Health care level						
Secondary	1.5 (0.2–12.8)	0.711	1.8 (0.2–14.2)	0.601	2.4 (0.3–19.8)	0.416
Tertiary	1.0 (0.2–6.4)	>0.999	1.3 (0.2–8.5)	0.758	1.0 (0.1–6.4)	>0.999
Geographic region: MENA region	0.682 (0.3–1.6)	0.396	1.3 (0.4–2.4)	0.937	1.3 (0.6–3.2)	0.499
	Multivariate analysis[1]		**Multivariate analysis[2]**		**Multivariate analysis[3]**	
Specialty: pulmonologist	5.7 (1.8–17.5)	**0.003***	3.4 (1.1–10.2)	**0.031***	5.3 (1.5–18.0)	**0.008***
Geographic region: MENA region	0.4 (0.1–1.1)	0.089	–	–	–	–
Position: consultant	–	–	6.9 (1.6–29.5)	**0.009***	4.6 (1.1–19.9)	**0.040***
Position: specialist	–	–	6.4 (1.5–26.6)	**0.010***	6.1 (1.4–25.7)	**0.041***

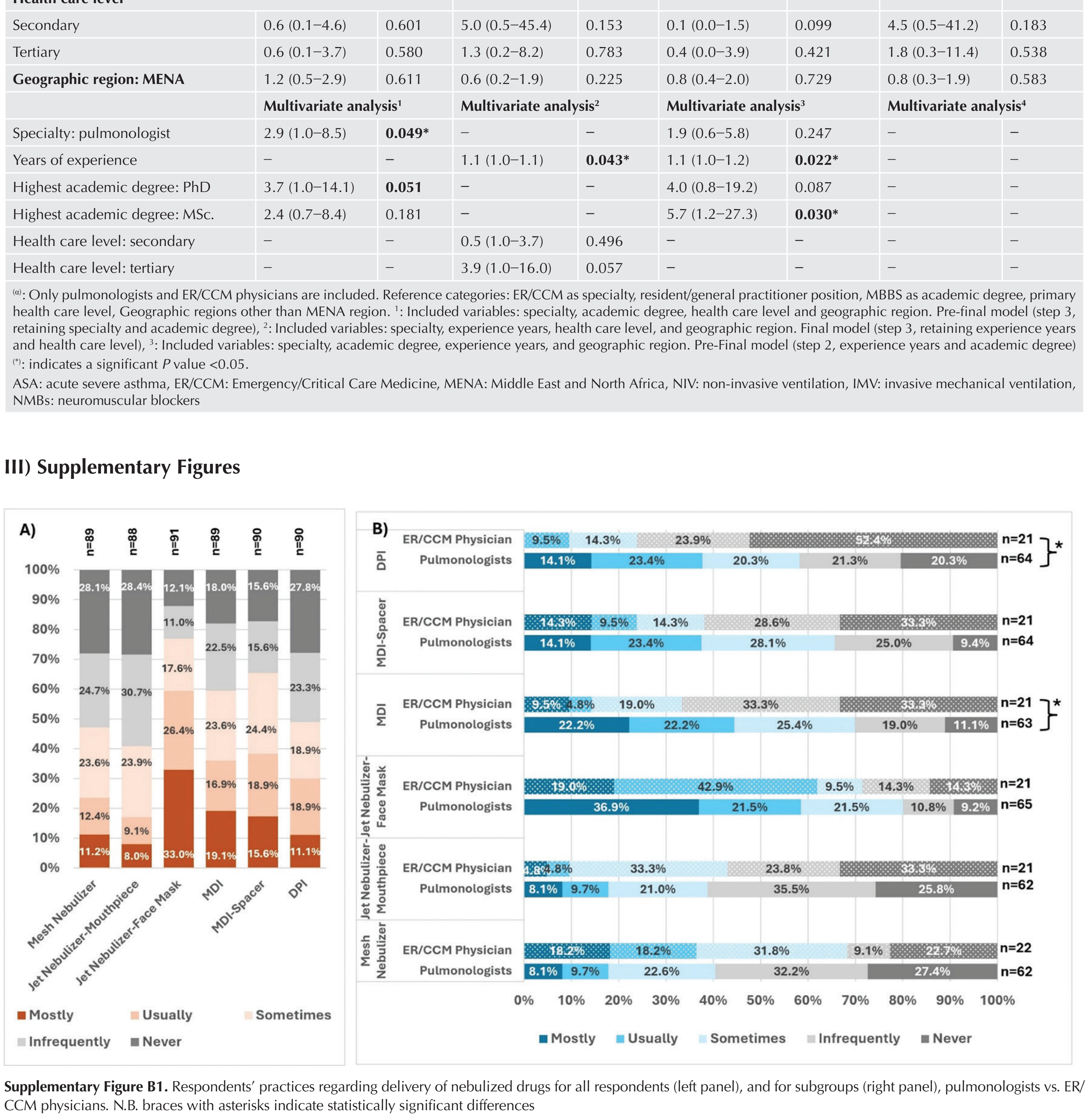
[α]: Only pulmonologists and ER/CCM physicians are included. Reference categories: ER/CCM as specialty, resident/general practitioner position, MBBS as academic degree, primary health care level, geographic regions other than MENA region, [1]: Included variables: specialty, position, and geographic region. Final model (step 2, dropping position), [2]: Included variables: specialty, position, health care level, and geographic region. Final model (step 3, dropping health care level and geographic region), [3]: Included variables: specialty, position, health care level and geographic region. Final model (step 3, dropping position health care level and geographic region)
[*]: indicates a significant *P* value <0.05.
ASA: acute severe asthma, ER/CCM: Emergency/Critical Care Medicine, MENA: Middle East and North Africa

Supplementary Table A6. Table Predictors of respondents' knowledge and practice preferences regarding management of critically ill patients with ASA (n = 88)(α)

	Appropriate NIV settings		Appropriate IMV settings		Use of sedation during NIV		NMBs during IMV	
	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value	OR (95% CI)	*P* value
	Univariate analysis		Univariate analysis		Univariate analysis		Univariate analysis	
Specialty: pulmonologist	3.2 (1.1–9.3)	**0.031***	1.0 (0.3–2.7)	0.950	1.3 (0.5–3.5)	0.574	0.4 (0.1–1.2)	0.117
Years of experience	1.0 (1.0–1.1)	0.538	1.0 (1.0–1.1)	**0.051**	1.1 (1.0–1.2)	**0.005***	1.0 (0.9–1.0)	0.504
Position								
Consultant	3.1 (0.9–11.2)	0.077	1.5 (0.5–5.1)	0.465	7.3 (1.9–29.0)	**0.004***	0.8 (0.2–2.6)	0.680
Specialist	2.3 (0.7–7.7)	0.185	1.0 (0.3–3.0)	0.950	2.4 (0.6–8.9)	**0.190**	1.7 (0.5–5.5)	0.367
Highest academic degree								
MSc.	1.9 (0.5–6.4)	0.312	0.4 (0.1–1.2)	0.109	5.0 (1.2–22.4)	**0.027***	0.9 (0.2–2.9)	0.811
PhD	3.1 (0.8–11.3)	0.084	0.8 (0.2–2.7)	0.702	5.2 (1.2–20.8)	**0.026***	0.8 (0.2–2.9)	0.795
Health care level								
Secondary	0.6 (0.1–4.6)	0.601	5.0 (0.5–45.4)	0.153	0.1 (0.0–1.5)	0.099	4.5 (0.5–41.2)	0.183
Tertiary	0.6 (0.1–3.7)	0.580	1.3 (0.2–8.2)	0.783	0.4 (0.0–3.9)	0.421	1.8 (0.3–11.4)	0.538
Geographic region: MENA	1.2 (0.5–2.9)	0.611	0.6 (0.2–1.9)	0.225	0.8 (0.4–2.0)	0.729	0.8 (0.3–1.9)	0.583
	Multivariate analysis[1]		**Multivariate analysis[2]**		**Multivariate analysis[3]**		**Multivariate analysis[4]**	
Specialty: pulmonologist	2.9 (1.0–8.5)	**0.049***	–	–	1.9 (0.6–5.8)	0.247	–	–
Years of experience	–	–	1.1 (1.0–1.1)	**0.043***	1.1 (1.0–1.2)	**0.022***	–	–
Highest academic degree: PhD	3.7 (1.0–14.1)	**0.051**	–	–	4.0 (0.8–19.2)	0.087	–	–
Highest academic degree: MSc.	2.4 (0.7–8.4)	0.181	–	–	5.7 (1.2–27.3)	**0.030***	–	–
Health care level: secondary	–	–	0.5 (1.0–3.7)	0.496	–	–	–	–
Health care level: tertiary	–	–	3.9 (1.0–16.0)	0.057	–	–	–	–

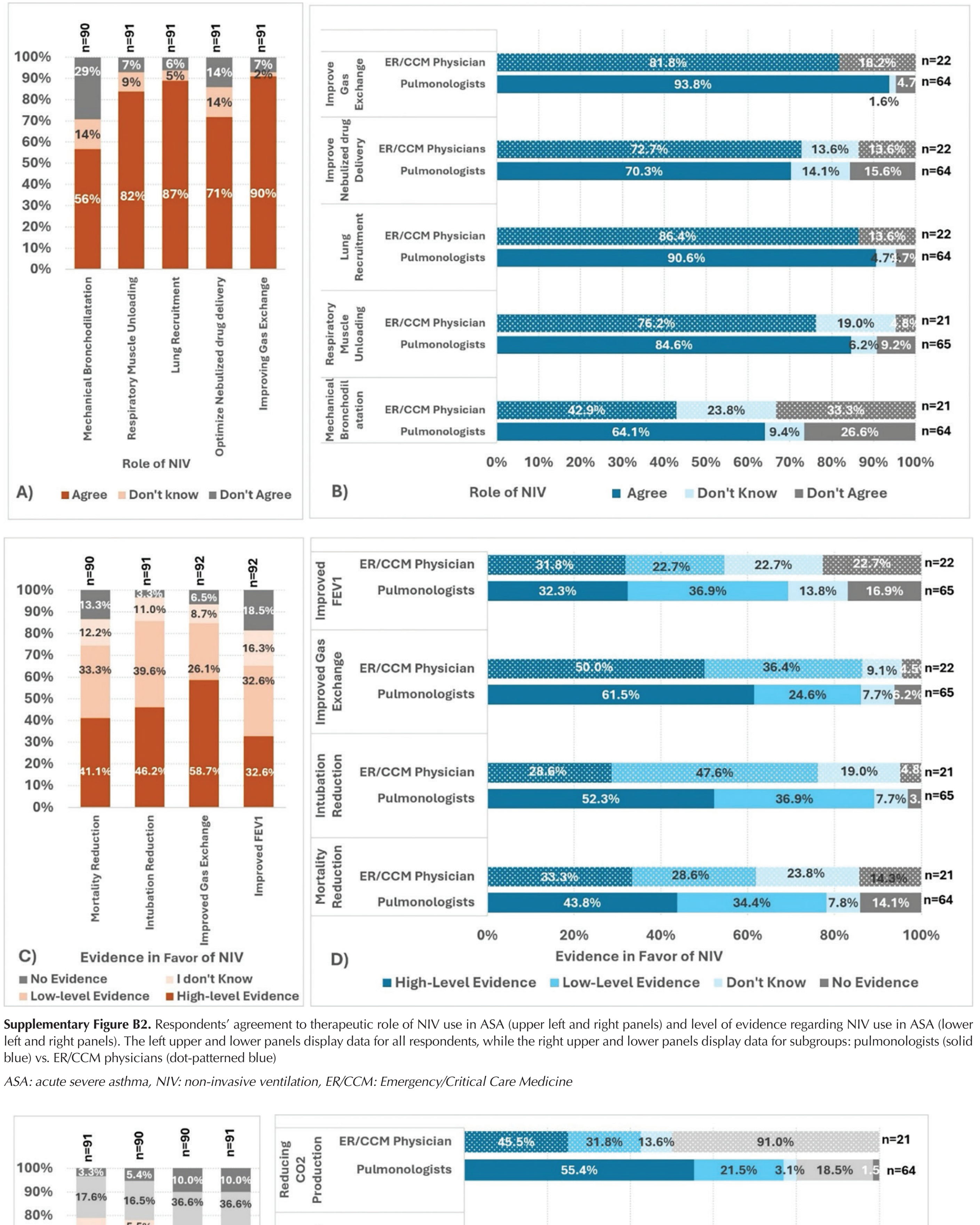
[α]: Only pulmonologists and ER/CCM physicians are included. Reference categories: ER/CCM as specialty, resident/general practitioner position, MBBS as academic degree, primary health care level, Geographic regions other than MENA region. [1]: Included variables: specialty, academic degree, health care level and geographic region. Pre-final model (step 3, retaining specialty and academic degree), [2]: Included variables: specialty, experience years, health care level, and geographic region. Final model (step 3, retaining experience years and health care level), [3]: Included variables: specialty, academic degree, experience years, and geographic region. Pre-Final model (step 2, experience years and academic degree)
[*]: indicates a significant *P* value <0.05.
ASA: acute severe asthma, ER/CCM: Emergency/Critical Care Medicine, MENA: Middle East and North Africa, NIV: non-invasive ventilation, IMV: invasive mechanical ventilation, NMBs: neuromuscular blockers

III) Supplementary Figures



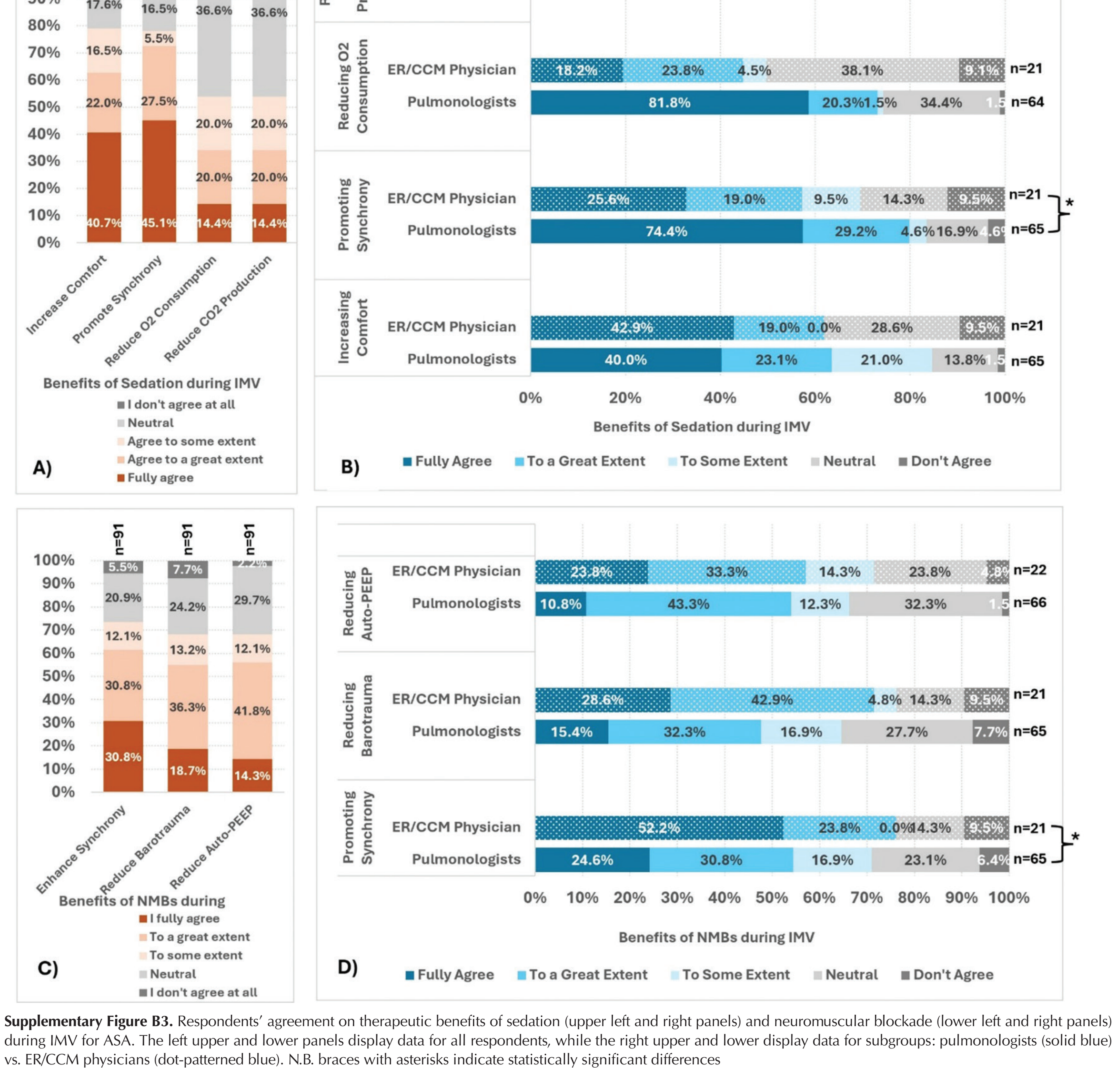
Supplementary Figure B1. Respondents' practices regarding delivery of nebulized drugs for all respondents (left panel), and for subgroups (right panel), pulmonologists vs. ER/CCM physicians. N.B. braces with asterisks indicate statistically significant differences

ER/CCM: Emergency/Critical Care Medicine



Supplementary Figure B2. Respondents' agreement to therapeutic role of NIV use in ASA (upper left and right panels) and level of evidence regarding NIV use in ASA (lower left and right panels).

ASA: acute severe asthma, NIV: non-invasive ventilation, ER/CCM: Emergency/Critical Care Medicine



Supplementary Figure B3. Respondents' agreement on therapeutic benefits of sedation and neuromuscular blockade during IMV for ASA.

ASA: acute severe asthma, IMV: invasive mechanical ventilation, ER/CCM: Emergency/Critical Care Medicine