The opinion of French pulmonologists and palliative care physicians on non-invasive ventilation during palliative sedation at end of life: a nation wide survey

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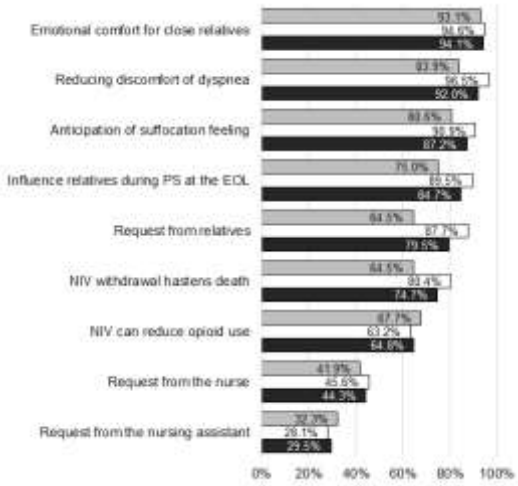
Introduction Deciding to withdraw non-invasive ventilation (NIV) at end-of-life (EOL) in patients with chronic respiratory failure is a challenge. The European Association for Palliative Care recommends not maintaining artificialtherapies that could prolong life during palliative sedation (PS) at EOL. The aim of this survey was to assess palliative care physicians' and pulmonologists' opinion on withdrawing or maintaining NIV in patients with chronic respiratory failure during PS at EOL.

Material and Methods From April to May 2019, we performed a prospective survey among pulmonologists (n = 1545) and palliative care physicians (n = 631) in France to determine the prevalence of opinion in favour of maintaining NIV and identify the factors associated with opinion in favour of withdrawing or maintaining NIV with multiple logistic regression.

Reasons for maintaining NIV □ Pulmonologists ■ Palliative care physicians □ All physicians



Results A total of 457 participants were enrolled comprising **202 pulmonologists** and **255 palliative care physicians**.

An opinion in favour of maintaining NIV was found in 88 (19.3 95%CI [15.7; 23.2]) physicians comprising 57 (28.2%) pulmonologists and 31 (12.2%) palliative care physicians ($p < 0.001$).

The factors associated with an opinion in favour of maintaining NIV were :

- **spending time looking for advanced directives** (AD) in the patient's file (odds ratio (OR) : 6.54, 95%CI [2.00; 21.32], p = 0.002) ;
- **personal ethics of physicians** (OR: 17.97, 95%CI [9.52; 33.89], $p < 0.001$).

The factor associated with an opinion in favour of withdrawing NIV was **palliative care training** (OR: 0.31, 95%CI [0.16;0.60], $p < 0.001$).

The three main reasons in favour of maintaining NIV were : **emotional comfort for close relatives, reducing discomfort of dyspnea and anticipation of suffocation.**

Discussion Given the 20% rate of maintaining NIV found among doctors surveyed in this study :

Why this rate is still so high ?

when the law proscribes stubborn life support in this situation.

How it can be lowered ?

Decisions and attitudes are dictated by the doctors' personal ethics concerning the NIV without training in NIV and in palliative care.

Doctors with training in palliative care are less likely to maintain NIV than those without. They are more aware of guidelines, and being trained they feel better able to make reasoned decisions in these types of medical situation. A binary question such as withdrawing or maintaining NIV during PS without any context except for the EOL is admittedly hard to answer.We cannot claim that the survey sample is fully representative of all the French physicians caring for patients with NIV for chronic respiratory failure at EOL as this was an observational study.

A strength of the survey is that the professionals surveyed had very different training on the same practice during PS at EOL.

Differences of characteristicsbetween physicians with opinion in favour of maintaining or withdrawing NIV

	Withdrawing (n=369)	Maintaining (n=88)	p-value
Female gender	202 (54.7)	54 (61.4)	0.26
Age (years)	45.7 ± 12.1	45.0 ± 12.2	0.64
Status of physicians,			
Senior practitioner	351 (95.1)	86 (97.7)	0.39
Professor	18 (4.9)	2 (2.3)	
Specialty of physicians			
Pulmonologists	145 (39.3)	57 (64.8)	<0.001
Palliative care physicians	224 (60.7)	31 (35.2)	
Training in palliative care	245 (66.4)	39 (44.3)	<0.001
Training in NIV	122 (33.1)	39 (44.3)	0.047
Training in NIV and palliative care	37 (10.0)	7 (8.0)	0.55
Experience in EOL sedation in patient treated with NIV	217 (58.8)	60 (68.2)	0.11
Doctor with difficulty in decision-making to withdraw NIV	105/217 (48.4)	40/60 (66.7)	0.012
Personal belief in favour of maintaining NIV	24 (6.5)	47 (53.4)	<0.001
Research time for advanced directives	310 (84.0)	84 (95.4)	0.005

Data are presented as frequencies (associated percentages), or mean ± standard deviation.

EOL: end-of-life; NIV: non-invasive ventilation.

Conclusion

In France, around 20% of pulmonologists and palliative care physicians declared an opinion in favour of maintaining NIV during PS at EOL because of their personal ethics and spending time looking for AD, if any, in the patient's file. Palliative care training can stimulate reflection help foster a change of opinion about practices, especially in the case of patients with NIV during PS at EOL.

References Demoule A, Girou E, Richard J-C, Taillé S, Brochard L. Increased use of noninvasive ventilation in French intensive care units. Intensive Care Med. 2006;32:1747–55.