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Starting home mechanical ventilation associates with reduced rate of hospitalization in people with obesity hypoventilation syndrome: The population-based DISCOVERY study

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Background:

Patients with obesity hypoventilation syndrome (OHS) are at high risk of being hospitalized

Aims and objectives

To evaluate annualized hospitalization rate (AHR) and change in AHR in patients with OHS starting home mechanical ventilation (HMV), and if the association differs between patients starting HMV acutely or electively.

Methods:

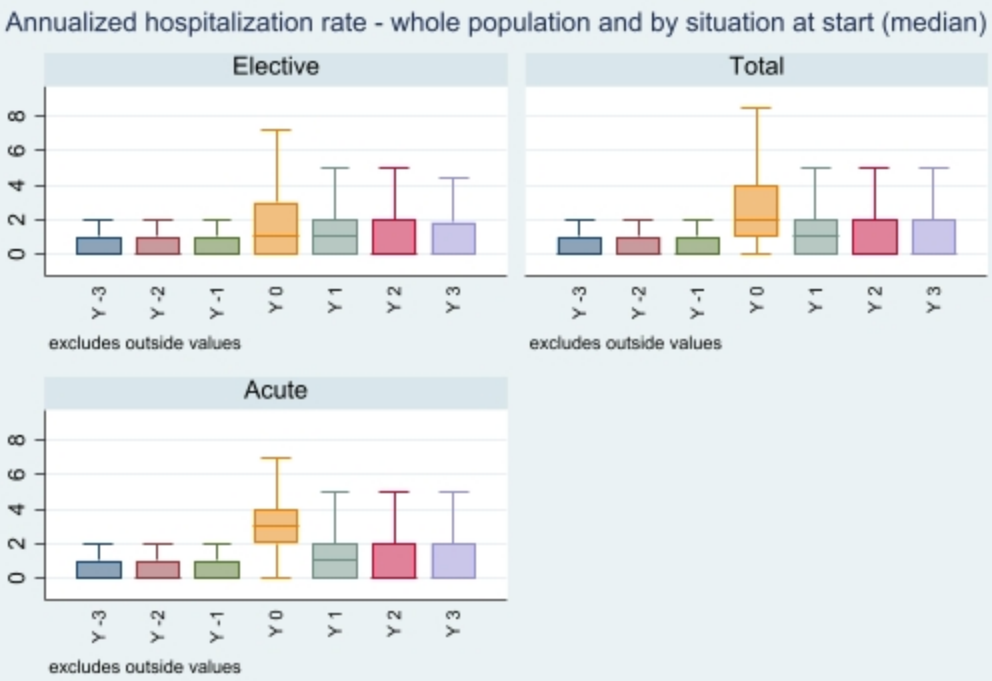
Population-based longitudinal study on patients with OHS starting HMV in the Swedish Registry for Respiratory Failure (Swedevox) between 1996 and 2018, cross-linked with the National Patient Registry for information about hospital admissions. Year 0 was defined as HMV start date ± 0.5 year. Comparisons of AHR and the change in AHR between years and groups was performed using Wilcoxon signed-rank test, Mann-Whitney U test and two-sample t test.

Results:

In total, 2,453 patients were included: 47.2% females; mean age, 62.3 ± 12.2, years and 1,027 (41.9%) starting treatment electively. Between year -1 and 0 AHR increased by 1.58 (95%CI 1.47-1.69) hospitalizations/year and decreased between year 0 and 1 with 0.88 (95%CI -1.02 - -0.74). There was no difference in AHR in year 1 between patients starting acutely or electively (p=0.199) . (See figure 1)

Conclusions :

Starting HMV was associated with decreased AHR in patients with OHS. In year 1 AHR had decreased to the same level in patients starting acutely and electively


Annualized hospitalization rate - whole population and by situation at start (median)
Elective
Total
Acute
0 2 4 6 8
Y -3
Y -2
Y -1
Y 0
Y 1
Y 2
Y 3
excludes outside values
excludes outside values
excludes outside values
Y 0 includes 183 days before and 182 days after start of treatment