



Publication

Nagata et al. 2022
American Journal of Respiratory and Critical Care Medicine

Home High-Flow Nasal Cannula Oxygen Therapy for Stable Hypercapnic COPD: A Randomized Trial

Objective:

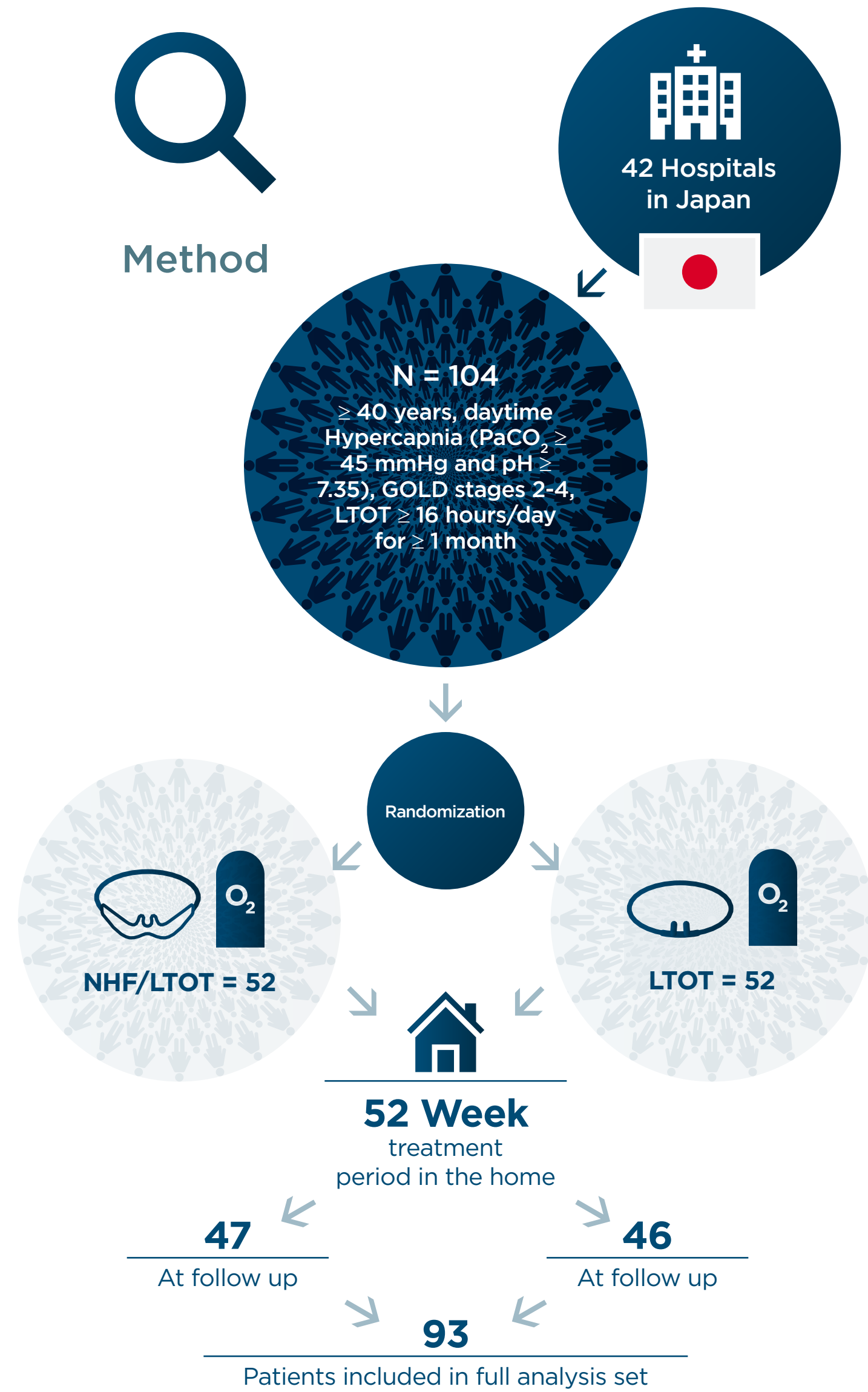
To assess whether Nasal High Flow (NHF) therapy in the home – using the myAirvo™ 2 and Optiflow™ cannula – reduces the number of exacerbations and improves other physiological parameters in patients with chronic hypercapnic respiratory failure due to Chronic Obstructive Pulmonary Disease (COPD).

Primary Outcome:

The rate of moderate/severe COPD exacerbations over the 52-week period.

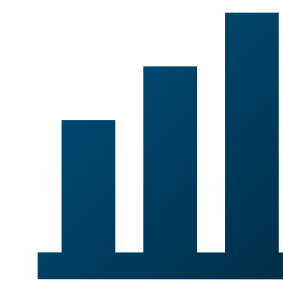


Method



Mean NHF usage	
Daily Usage (hr/day)	7.3 ± 3.0 (mainly at night)
NHF Flow rate (L/min)	28.5 ± 4.57
Temperature (°C)	34 - 37 (started on 37)

Moderate COPD Exacerbation
"... necessitating treatment with systemic corticosteroids and/or antibiotics"
Severe COPD Exacerbation
"... requiring hospitalization, including an emergency admission"



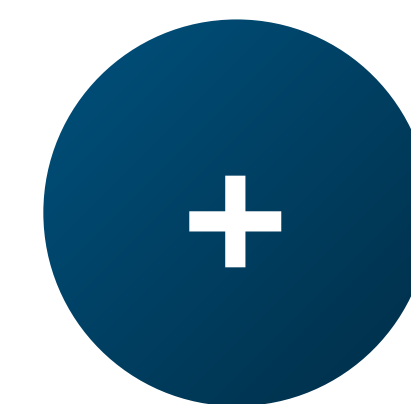
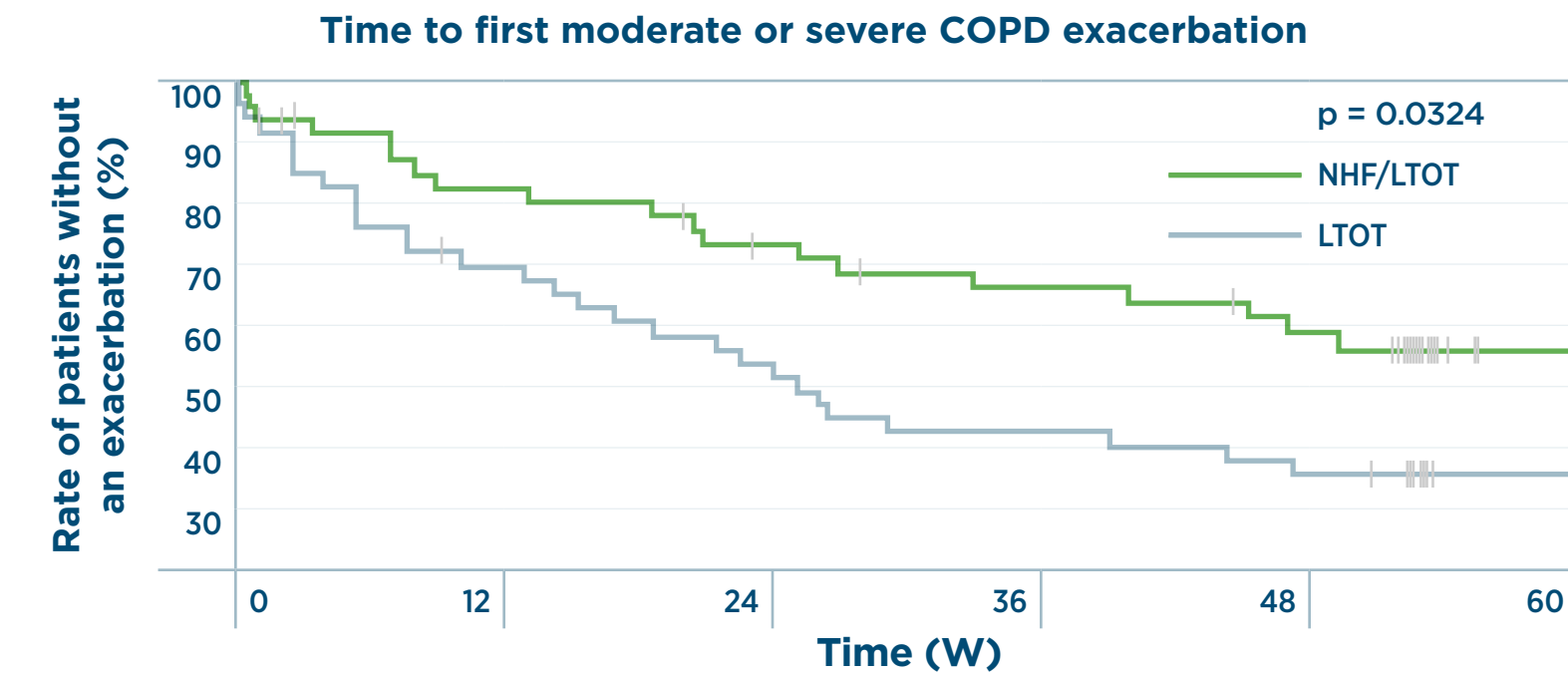
Results

Primary Outcomes

NHF/LTOT significantly reduced the rate of moderate/severe COPD exacerbations compared to LTOT alone (unadjusted mean count 1.0 vs. 2.5, a ratio of the adjusted mean count between groups of 2.85 [95% CI; 1.48-5.47], p = 0.002)

Secondary Outcomes

NHF prolonged the duration without moderate/severe COPD exacerbations over the 52-week study period (p = 0.0324). The rates (%) of patients without an exacerbation at the 52nd week in the LTOT and NHF/LTOT groups were 35.9 and 56.1, respectively.

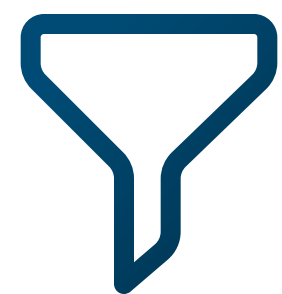


NHF also significantly improved (p < 0.05):

- SGRQ-C total score at week 24
- SGRQ-C impact score at week 12
- SpO₂ at week 52
- PaCO₂ at week 12
- FVC (%FVC) at week 24
- FEV1 (%FEV1) at week 12

LTOT = long term oxygen therapy
 GOLD = global initiative for chronic obstructive lung disease
 CI = confidence interval
 SGRQ-C = St George's Respiratory Questionnaire for COPD

SpO₂ = peripheral oxygen saturation
 PaCO₂ = partial pressure of carbon dioxide
 FVC = forced vital capacity
 FEV1 = forced expiratory volume in 1 s



Key Points

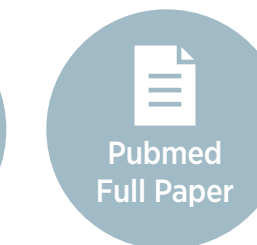
NHF in the home significantly reduced the rate of moderate/severe exacerbations

NHF in the home prolonged the duration without moderate/severe exacerbations

Further reading



Pubmed Abstract



Pubmed Full Paper