**Conclusion** This study highlights the changing face of home NIV service in terms of both the increasing numbers of patients requiring home NIV and the changing pattern of indication, particularly in the face of an emerging obesity epidemic.

**Introduction** Home NIV in selected patients with stable hypercapnic COPD has been shown to reduce hospital admissions. Randomised studies have produced conflicting evidence on its effect on quality of life and survival. High intensity ventilation has shown promise. However, most studies of NIV for COPD have been in highly selected patients in the research setting. We attempt to explore the impact of home NIV in a district hospital setting.

**Methods** All patients established on home NIV for COPD for at least 1 year were identified from NIV database. The primary outcomes were number of hospital admissions, length of hospital stay (LOS) and days requiring acute NIV during the 12 months before starting NIV and the 12 months after. Secondary outcomes were admission blood gases during these periods.

**Results** Thirty-seven patients were identified, 9 were excluded as COPD was not the primary diagnosis or records could not be traced. Twenty-eight patients (23 females) were included in the study (Age 63±9 years, BMI 34±10, FEV1 0.58±0.18, FEV1% predicted 27±10, T wenty-eight patients had no admissions after hospital admission. No significant differences were found between the four cohorts in terms of age, gender, BMI, FEV1 and FEV1% predicted. Twenty-five patients (20 females) were male and median length of stay on the weaning unit was 27 days (IQR16–46). Thirty (7%) patients died before discharge. Of the survivors, 360 (79%) were weaned from IMV and 140 (31%) did not require any ventilatory support on discharge. No significant differences were found between the four cohorts in terms of age, gender, length of stay, proportions successfully weaned from IMV and requirement for NIV on discharge. There was no change in case mix and outcomes of patients referred to a unit specialising in weaning from invasive mechanical ventilation (IMV) over a 20 year period, comparing sequential 5-year cohorts.

**Discussion** We did not identify any change in the referral pattern to our weaning unit, despite widespread use of NIV. With rates of 79% successfully weaned from IMV and a median survival of 29.2 months (IQR 20.8–37.7) referral to our weaning unit was anticipated over time. We investigated the case mix and outcomes of patients referred to a unit specialising in weaning from invasive mechanical ventilation (IMV) over a 20 year period, comparing sequential 5-year cohorts.

**Results** Figure 1. Kaplan Meier plot of post discharge survival, comparing the four 5-year cohorts.

A total of 453 patients were identified, 420 (93%) referred from other centres. Median age was 60.9 (IQR 49.6–70.2), 250 (55%) were male and median length of stay on the weaning unit was 27 days (IQR16–46). Thirty (7%) patients died before discharge. Of the survivors, 360 (79%) were weaned from IMV and 140 (31%) did not require any ventilatory support on discharge. No significant differences were found between the four cohorts in terms of age, gender, length of stay, proportions successfully weaned from IMV and requirement for NIV on discharge. There was no change in case mix, for example the proportions of patients with COPD were 18%, 23%, 25% and 22% across the four 5-year cohorts.

**Discussion** We did not identify any change in the referral pattern to our weaning unit, despite widespread use of NIV. With rates of 79% successfully weaned from IMV and a median survival of 29.2 months (IQR 20.8–37.7) referral to our weaning centre remains highly relevant for those receiving prolonged IMV and good outcomes can be anticipated.

**Abstract P227 Table 1** Hospital activity and blood gases during 12 months before and after home NIV

<table>
<thead>
<tr>
<th></th>
<th>12 months before NIV</th>
<th>12 months after NIV</th>
<th>p value (paired t test)</th>
<th>p value (Mann Whitney)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of admissions</td>
<td>3.5 (2.5)</td>
<td>1.5 (2.9)</td>
<td>0.002</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean LOS</td>
<td>10.7 (8.4)</td>
<td>3.5 (3.9)</td>
<td>0.002</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Total LOS</td>
<td>30.4 (21.1)</td>
<td>9.5 (18)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Acute NIV Days</td>
<td>13.3 (15.4)</td>
<td>1.4 (3.3)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Admission pH</td>
<td>7.31 (0.08)</td>
<td>7.36 (0.04)</td>
<td>0.16</td>
<td>0.02</td>
</tr>
<tr>
<td>Admission PCO2</td>
<td>9.42 (2.33)</td>
<td>8.05 (1.99)</td>
<td>0.44</td>
<td>0.48</td>
</tr>
</tbody>
</table>
References


Nocturnal Noninvasive Ventilation Improves Muscle Strength in Stable COPD Patients with Respiratory Failure

Mir Shad Ali, Deepak Talwar, Mandeep Singh. Metro Centre for Respiratory Diseases, NOIDA, INDIA

Introduction/Objectives Non-Invasive ventilation (NIV) is established for treatment of patients with COPD and respiratory failure (RF). Respiratory muscle weakness has been reported in these patients. Aim of the study is to see whether nocturnal NIV improves respiratory muscle strength in these patients.

Method 15 stable patients with type II respiratory failure were prospectively given nocturnal NIV at MCRD using Resmed BIPAP at optimal pressure titrated individually for each patient for 8 hours. 7 patients were in control group and were not given nocturnal NIV after obtaining informed consent. Maximal inspiratory, expiratory (PImax & PEmax) and sniff nasal inspiratory pressure (SNIP) were recorded using micro RPM (Care fusion inc.) before and within 5min of removal of nocturnal BIPAP. Paired t-test was used to analyze the recorded data within significant level kept at P<0.05.

Result There was significant increase in PI max & SNIP after nocturnal NIV support in patients with COPD with respiratory failure (58.87±18.2 cmH2O vs 42.07±16.3 cmH2O; p=0.05 & p=0.048 respectively), but increase in PE max (66.4±18.6 cmH2O vs 68.53±22.0 cmH2O) was stastically insignificant (p=0.37). However significant decrease in PImax & SNIP was observed in the subset of patients who were not given nocturnal NIV (53.14±20.56 cmH2O vs 50.9±21.6 cmH2O; 76.3±20.1 cmH2O vs 71.9±21.8 cmH2O; 38.6±11.7 cmH2O vs 33.7±10.4 cmH2O; p=0.156;0.037 & 0.053 respectively).

Conclusion Nocturnal NIV support in patients with stable COPD with respiratory failure significantly loads the respiratory muscle, thereby improving inspiratory muscle strength indicating role of NIV in stable COPD patients with respiratory muscle weakness.

CPR and Ventilation Preferences in COPD Patients Using Home NIV: Still Unexplored After Ten Years

JL Dickson, R Gadhot, MD Hind, AK Simonds, MI Polkey. NIHR Respiratory Biomedical Research Unit at the Royal Brompton & Harefield NHS Trust and Imperial College, London, UK

Introduction The GMC, NCEPQD and Resuscitation council UK have clear guidelines suggesting early decision making when considering appropriateness of CPR and invasive ventilation (ETV) in acute admissions. Furthermore patient preferences should be identified in advance of acute deterioration where they have an existing condition that makes cardiac or respiratory arrest likely. It is currently unclear how closely this advice is followed in practice. Since COPD patients requiring home ventilation have higher than average risk of acute respiratory failure and death we reasoned that CPR/ETV should have been discussed in all cases, but in 2002 a prior audit found that such discussion was infrequent.

Facilitating End-of-Life Discussions in Users of Home Mechanical Ventilation That Have a Life-Limiting Neuromuscular Disease

J Palmer, N Stephen, R Endacott. Plymouth Hospitals NHS Trust, Plymouth, United Kingdom; Plymouth University, Plymouth, United Kingdom

Introduction and Objectives There are many individuals living in the United Kingdom with a neuromuscular disease which will cause their death. Many use home mechanical ventilation (HMV). Discussing end-of-life care with patients with life-limiting disease is currently high on the health agenda. Whilst the published guidance does not provide evidence that patients wish to be involved in these discussions, the knowledge base tends to support it. There are few studies which specifically investigate whether those with progressive neuromuscular disease want to be involved or what facilitates such conversations. We examined the experience of HMV patients with neuromuscular disease with regards end of life discussions.

Methods A generic qualitative research approach was employed. Purposive sampling was utilised. Individuals, volunteered to participate in a face-to-face interview. The interview transcripts were analysed using a thematic content approach to identify common themes.

Results Interviews were conducted with 9 individuals; 5 male, 4 female with a mean age of 58 years (range 31–74). Five participants had Motor Neuron Disease (MND). Four had less progressive disease. Two participants used continuous tracheostomy ventilation; the others used HMV predominantly at night. Five denied that they had taken part in a professional led end-of-life conversation. Four participants have since died. The key findings indicate that for constructive dialogue to take place most individuals required a prompt or cue from a care professional. Not all had one. Once received most patients would engage in conversations as long as the timing, conditions and professional were appropriate. The need to remain positive and to receive adequate information were strong themes throughout the interviews. The presence of relatives or significant others was a barrier to productive conversations in those with more stable disease but a facilitator to those with MND.

Conclusion Despite the need for individuals to remain positive, useful discussions can take place if patients are approached to do so by a knowledgeable professional with the correct skills at an appropriate place in the disease trajectory. If such discussions do take place then patients can find these rewarding and they can have a positive effect on their lives.

CPR/ETV should have been discussed in all cases, but in 2002 a prior audit found that such discussion was infrequent.