

Clinical interventions in COPD

P150 HOW WELL DO PATIENTS WITH CHRONIC RESPIRATORY FAILURE SECONDARY TO COPD AND THEIR CARERS ADAPT TO LONG-TERM OXYGEN THERAPY AT HOME?

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Introduction and objectives Long-term oxygen therapy for the treatment chronic respiratory failure requires a commitment by patients to use 15 h oxygen per day and yet little is known about the impact of this demanding treatment on daily living. A phenomenological approach was used to explore the personal experiences of patients starting long-term oxygen therapy at home and their carers. All patients had a primary diagnosis of COPD with chronic respiratory failure and had completed formal oxygen assessment in the Oxygen Assessment Clinic. The study was ethically approved.

Methods The research tool was a single, semi-structured recorded interview carried out within the participants' own home within 4 weeks of commencing oxygen. Participants were recruited from clinic over a 2-month period and consisted of seven patient participants (6 female, 1 male) and four carer participants (3 female, 1 male). For the purpose of this study, a carer was defined as someone who had daily contact with the patient. A semi-structured interview was carried out in the participants' own home. Interviews were recorded and then transcribed verbatim. Patients and carers were interviewed separately to ensure confidentiality. Due to the chronic breathlessness of the patient participants, interview times were limited to between 30 and 45 min. Analysis was carried out using Colaizzi's seven stage process (1978).

Results Patient participants described emotions ranging from initial fear, anger, and frustration to final acceptance. This journey was echoed in the experiences of the carers and shared elements of the grieving process (Kubler-Ross). Some patients and carers had begun to develop coping strategies to help with day-to-day activities, such as using ambulatory oxygen to complete simple chores or using breathing exercises to relax.

Conclusions The impact of long-term oxygen therapy on the participants of this study, both emotionally and physically, was considerable. Formal oxygen assessment is undoubtedly essential but patients and their carers need additional educational and emotional support from an experienced Health Care Professional, particularly during the initial stages of their treatment.

P151 REDUCED MORTALITY WITH β BLOCKERS WHEN ADDED TO STEPWISE THERAPY FOR COPD

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Introduction and objectives We wished to examine if β blockers reduced mortality in addition to stepwise therapy for COPD, independent of cardiovascular disease.

Methods We searched data provided by the Information Services Division of NHS Scotland, to identify patients in NHS Tayside, who required a hospital admission due to COPD. We then searched the NHS Tayside Respiratory Disease Information System (TARDIS) to identify patients since January 2001 to January 2010 who had a documented history of COPD: to collect data on lung function, smoking history and SaO₂. We collected prescription data from the

Tayside Community Prescription database and history of death in our population from the General Register Office. We also collected history of diabetes and admission to hospital due to cardiovascular disease in our cohort. Using Cox Regression Survival analysis, we calculated the hazard ratios for mortality based upon step wise inhaled therapy and β -blocker use. Cardiovascular and respiratory hospital admissions, diabetes, smoking, age at diagnosis, cardiac drug use, FEV₁% and SaO₂ were also included in our model.

Results 27 170 patients were initially identified with a hospital admission due to COPD. 6394 patients were identified through the TARDIS database of which 5977 patients were over 50 years of age and used for analysis. Mean age at diagnosis was 69 years. Mean FEV₁% was 62%. 89% of beta-blockers (BB) were cardioselective. All patients were receiving SABA \pm ipratropium. Adjusted hazard ratios for mortality and 95% CI's relative to the control group (mean FEV₁ 71%) receiving SABA \pm ipratropium only (n=915) are displayed in the Abstract P151 Table 1.

Abstract P151 Table 1 Adjusted hazard ratios for mortality based on treatment group

Intervention	Number	Mean FEV ₁ (%)	Adjusted HR	95% CI
ICS+LABA+Tio+BB	268	55.3%	0.32	0.24–0.43
ICS+LABA+Tio	2082	52.5%	0.5	0.44–0.58
ICS+LABA+BB	148	67.9%	0.47	0.33–0.66
ICS+LABA	922	66.5%	0.76	0.65–0.88
ICS+Tio	170	60.1%	0.6	0.45–0.79
ICS+BB	110	64.8%	0.49	0.34–0.71
ICS	456	69.1%	0.79	0.65–0.95
LABA/Tio (no ICS) + BB	131	65.2%	0.65	0.46–0.91
LABA/Tio (no ICS)	502	60.6%	0.75	0.62–0.9
BB (no ICS)	273	73.6%	0.74	0.57–0.94

Conclusion β Blockers reduce mortality in an additive fashion to stepwise therapy for COPD, independently of cardiac hospital admissions and medications.

Clinical aspects of NIV

P152 EFFECT OF OBESITY IN PATIENTS ADMITTED TO NON INVASIVE VENTILATION (NIV) UNIT WITH ACUTE HYPERCAPNIC RESPIRATORY FAILURE (AHRF)

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Introduction The prevalence of obesity, defined by the World Health Organization as a body mass index (BMI) greater than 30 kg/m², is increasing in all developed countries. Obesity as the cause of admission or complicating in-patient stay has been increasing over the last decade. Obesity in intensive care unit (ICU) is significantly related to prolonged duration of mechanical ventilation and length of stay. Obesity is a known risk factor for acute hypercapnic respiratory failure (AHRF).

Methods An observational, single-centre, retrospective analysis of physician diagnosed obese patients requiring NIV for AHRF between April 2005 to March 2006 and April 2009 to March 2010. Demographic data including age, sex, height, weight, date of initiating NIV and length of stay in hospital were collected and BMI was calculated.

Results 154 patients were admitted in the period April 2005 to March 2006 and 160 patients in the period April 2009 to March 2010 to the dedicated NIV unit. The admissions to the unit with

diagnosis of obesity in 2005–2006 and 2009–2010 are 7.14% and 15.63%, respectively. The admission rates with obesity have increased significantly in 2009–2010 compared to 2005–2006 with an OR of 2.52 (1.14 to 5.08) with a p-value of 0.021. Average length of stay in 2005–2006 is 20.6 days and in 2009–2010 19.9 days respectively. Average length of stay in non-obese patient during the same period is 8.9 days. There are a higher proportion of obese women as compared to men admitted to NIV unit in 2009–2010. Abstract P152 Table 1.

Abstract P152 Table 1

	April 2005 to March 2006	April 2009 to March 2010
Total admissions	154	160
Obese patients	11	25
Length of stay	20.6 days	19.9 days
Average weight	121.33 kg	114.34 kg
Average BMI	42.11	43.03

Conclusion There is a significant increase in number of admissions who are obese to the NIV unit. This is consistent with the observation that there is an increase in the BMI of acute general admissions. These cohorts of obese patients have a higher average length of stay and consume enormous amount of healthcare resources. Interventions to reduce obesity in the general public need to be taken up as a priority to preserve limited healthcare resources.

P153 THE EFFECT OF BODY MASS INDEX ON OUTCOMES OF ACUTE NON-INVASIVE VENTILATION (NIV) IN A DISTRICT GENERAL HOSPITAL

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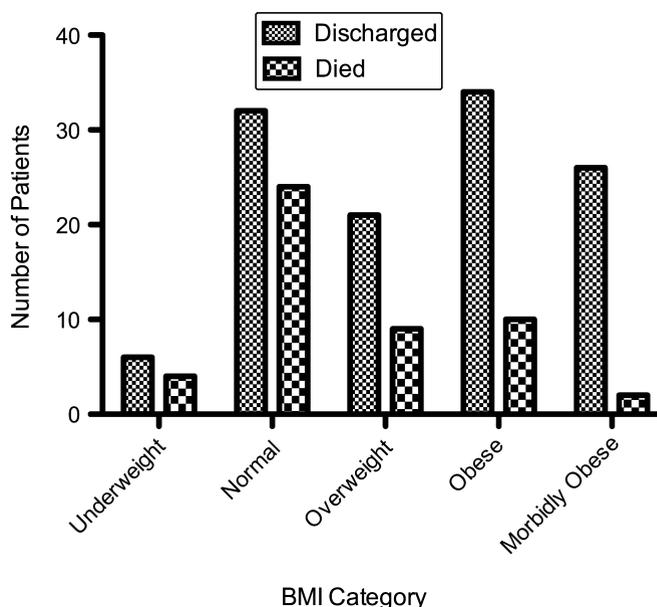
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Introduction The increasing prevalence of obesity is likely to affect the caseload of Non-invasive Ventilation (NIV) units. We hypothesised that outcomes in the obese and morbidly obese population would differ from patients with a normal Body Mass Index (BMI) on the NIV unit.

Method We audited all patients admitted to the NIV unit from January 2007 to December 2009. Patient demographics, admitting diagnosis, baseline arterial blood gases (ABG), duration on NIV, length of stay and outcome were recorded on BTS NIV audit proformas. BMI was obtained from GP records. Data were analysed using Prism 5.

Results A total of 176 patients (46% male, median age 74), were managed on the NIV unit. The admitting diagnosis was COPD (59%), Obesity hypoventilation syndrome (OHS) (13%), Cardiac failure (13%), Neuromuscular disorders (2%) or "other" diagnoses (13%). The median BMI was 27 (IQR 22.7–35.0); 6% of patients were underweight, 33% normal weight, 18% overweight, 26% obese and 17% morbidly obese. An increasing proportion of females were found in the obese and morbidly obese population (χ^2 p=0.003). No statistical differences were found in baseline ABG and NIV duration between different BMI categories. Compared to patients with a normal weight, obese and morbidly obese individuals had significantly longer lengths of hospital stay (Mann–Whitney U test p=0.004 and p=0.001, respectively). Outcomes did not differ between normal weight, underweight, or overweight patients. However, obese and morbidly obese patients were significantly more likely to survive admission compared to patients with a normal BMI (Abstract P153 Figure 1; χ^2 p=0.035 and p=0.0008, respectively).

Outcome of Patients Admitted to Acute NIV Unit



Abstract P153 Figure 1 Outcome of patients admitted to NIV Unit.

Similarly, there was no significant difference in age, gender, ABC parameters, NIV duration or length of stay between COPD and OHS patients. However, OHS patients were significantly more likely to survive admission (χ^2 p=0.0042).

Conclusion The outcomes for obese and morbidly obese patients were significantly better than patients with a normal BMI, although the length of stay was higher. Despite similar demographic features and metabolic disturbance of COPD and OHS patients, OHS patients were more likely to survive admission.

P154 THE PATIENTS' EXPERIENCE OF NIV. A PHENOMENOLOGICAL STUDY

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Background The Evidence that NIV is an effective treatment for patients with COPD who present in Acute Type 2 Respiratory Failure is well documented. Yet despite NIV being considered the gold standard for treating patients with this life threatening condition, no published research could be found on how individuals experienced NIV in the acute setting. The Respiratory Team has led the NIV service for the last 7 years and our knowledge has grown with every patient we have treated with NIV. However during the follow-up of patients who had undergone NIV it became apparent that some of them had strange tales to tell. They told of dreams and images that they associated with their episode on NIV. Some refused having NIV again due to their dislike of the treatment. This was not something which had been discussed whilst in hospital and warranted investigation.

The Study This phenomenological study aimed to explore the experiences of 8 patients with COPD who underwent NIV for Acute Type 2 RF. To gain access to the rich data, in-depth unstructured interviews were conducted. The data were analysed using a framework by Deikelman.

The Outcomes Some themes which emerged from the data were expected however, the main theme of delirium was not. This unpredicted finding raised issues about mental capacity and decision making. This new understanding of delirium and its possible