An evaluation of actual versus perceived use of the I-neb by 10 adult CF patients to assess potential benefits of self monitoring online tool on adherence to nebulised therapy recommendations

C.M. Williams1, 1Cheltenham Hospital, Physiotherapy Department, Gloucestershire, United Kingdom

The I-neb Adaptive aerosol device (AAD) is used widely by CF patients. The introduction of an online assessment tool facilitates patient self monitoring of nebuliser efficiency, treatment times and breathing techniques.

Aim: To download and evaluate the use of the I-neb over a period of 1 year by 10 patients; comparing this information with the patients perceived use of the device to identify the potential benefit of a patient self monitoring tool on treatment concordance.

Method: I-neb data from a 12 month period was downloaded from 10 patients who were issued with a short questionnaire asking them to outline how they had used their nebuliser. The results were returned to the CF Physiotherapist and feedback was compared with the downloaded data.

Results: 70% of patients perceived their I-neb use to be higher than the data downloaded (11.56% and 70.88%) 3 patients underestimated their use ((0.48%-1.5%). Patients perceived that the I-neb provided a quick (80% estimated <5 mins) and efficient (80% estimated >75% dose delivery) method of drug delivery. The actual % dose which the patients received ranged from between 94–100% (average 98.4%) 80% perceived that they received >75% each treatment. With 20% perceiving their dose to be between 50 and 75%.

80% of patients expressed interest in the availability of a tool which provided feedback on frequency of I-neb use, time taken, % dose delivered and quality of the mesh of the device.

Conclusion: Patient interest in an online method of self assessment tool indicates that this could be an effective method of improving concordance with treatment recommendations and reducing the gap between perceived and actual I-neb usage.

Nebuliser strategies in cystic fibrosis in Ireland. Results of a national audit

D. Shortall1, M.J. Harrison1, C. Shortt1, M. McCarthy1, C. Fleming1, D.M. Murphy1, P. Shanahan1, B. Plant1, 1Cork Adult Cystic Fibrosis Centre, Cork University Hospital, Cork, Ireland

Objectives: Nebuliser therapy is a vital component of CF care. Recent advances using mesh nebulisation (eFlow®) techniques offer improved delivery times for patients compared to traditional jet nebulisers (Portaneb®; PARI BOY®). This audit aims to examine current nebuliser strategies in Irish CF centres.

Methods: A nebuliser-use questionnaire was sent to 14 designated CF centres in Ireland for completion by the senior CF physiotherapist.

Conclusions: 6 of 10 paediatric and 3 of 4 adult centres replied. All centres report using Portaneb® nebulisers. eFlow® nebulisers were prescribed in 50% of paediatric and adult centres, but only in centres where physiotherapists were responsible for deciding nebuliser strategy. In the centres using eFlow®, 4 of 5 reported less than 25% of patients using an eFlow® device. Only one centre reported local health authority/ industry funding to support the purchase of these devices. This centre also had higher eFlow® use (50% of patients).

Traditional Portaneb® nebulisers are the mainstay of nebuliser therapy. Whilst newer mesh technology devices were used in over half of Irish CF centres, the absolute number using same was small. The reason for this low level of eFlow® usage is beyond the remits of this study. However, centre preference, direct physiotherapist involvement and funding are possible contributory factors. Further studies are required to determine the factors that influence this to allow the development of a standardized national strategy.

Complaining about time administration of colistimethate sodium via I-Neb®: preliminary results

S. Gambazza1, D. Innocenti2, B. Ferrari2, S. Zullo2, 1Azienda Ospedaliero-Universitaria Meyer, Cystic Fibrosis, Firenze, Italy; 2Azienda Ospedaliero-Universitaria Meyer, Rehabilitation Unit, Firenze, Italy

Background: Time requirements for multiple daily nebulizations may affect the quality of life for the majority of patients with cystic fibrosis (CF). The I-Neb® Adaptive Aerosol Delivery (AAD) system can lead to shorter treatment times: when operating in Tidal Breathing Mode (TBM), the AAD system calculates the maximum flow for each breath and how long the patient breathes in for. Since I-Neb® was introduced in our CF centre, it happened that some patients complained about long time requirements.

Aim: We therefore decided to preliminary investigate any relation between treatment duration and some clinical parameters.

Methods: Patients were retrospectively recruited if compliance data were available and only if they had already completed one cycle of therapy, to exclude poor familiarity with the device. Sample was statistically described and preliminary processed using Spearman correlation.

Results: 849 treatments were recorded, 100% in TBM mode. Mean administration time was 4.58 minutes (min) (sd 1.97 range 1−17). 12.13% of treatments lasted more than 7 min and 86.3% were inhaled by men. Patients’ (n = 10, 30% females) mean age was 29.5 years (sd 9.4 range 16.7–48.6) with mean FEV1 1.38L (sd 0.75 range 0.48–2.99), mean FVC 2.45L (sd 1.05 range 0.54–3.85) and mean BMI 20 kg/m² (sd 3.17 range 16.4–26.13). Patients spent on average 4.8 min (s.d 2.23) to inhale the same drug. Statistically significant lack of independence between mean time of inhalation and BMI (p = 0.72, d.f. 8 p = 0.01) was found.

Conclusions: Rigorous assumptions and larger sample size need to be considered to further investigate the relationship between nebulization time and disease progression.