WS4.1 Clinical supervision improves treatment fidelity to an adherence intervention
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Objectives: Treatment fidelity, defined as implementation of interventions as intended, positively affects efficacy. To improve fidelity to behavioral interventions, providers require supervision and feedback. In ICARE (I Change Adherence and Raise Expectations), we examined the effects of supervision on fidelity over time.

Methods: ICARE is a multisite, randomized trial, which includes Problem-Solving (PS). Behavioral Interventionists (BIs) from multidisciplinary teams conduct PS sessions with a teen and parent to identify adherence barriers and generate solutions. Sessions are videotaped and reviewed by a supervisor who provides feedback. Treatment fidelity is rated independently on a scale of 0–35.

Results: Preliminary data on 242 sessions by 28 BIs (12 CF centers) were analyzed. Significant improvements in fidelity were noted after each supervision session, with the greatest magnitude of change occurring within 3 supervisions (Baseline M = 21.02, M post Supervision 1 = 23.01; Supervision 2 = 23.61; Supervision 3 = 26.09). Baseline fidelity predicted fidelity after Supervisions #1 (r = 0.76, p < 0.01) and #2, but not Supervision #3 (r=0.31, ns). Repeated measures analyses confirmed that supervision leads to better treatment fidelity (t = −2.25, df = 15, p < 0.05).

Conclusions: Supervision significantly improved BIs’ fidelity to PS steps. A minimum of 3 supervisions optimizes fidelity; however, ongoing supervision is ideal. Supervision is central to successful delivery of behavioral interventions in clinic settings. Future analyses will examine data from a larger sample.

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WS4.2 CF patients’ beliefs about nebuliser treatment: implications for adherence to treatment
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Background: This study examined Cystic Fibrosis (CF) patients’ beliefs about nebuliser treatment (NT) (necessity beliefs and concerns about potential adverse effects) and whether beliefs were related to adherence.

Methods: CF patients completed the Beliefs about Medicines Questionnaire (BMQ), a validated measure of treatment necessity and concerns. Adherence was assessed using the Medication Adherence Report Scale (MARS).

Results: 59 participants completed questionnaires (mean age 27; 53% male). Many patients harboured doubts about their personal need for NT (e.g. 31% did not agree that without NT they would be very ill), and only 22% participants endorsed the need to take the full amount of their NT for it to work. The most prevalent concerns were: ‘NT is an unwelcome reminder of CF’ (46%), ‘NT disrupts my life’ (40%), ‘NT will become less effective is used regularly’ (40%), becoming too dependent on NT (30%), and NT is embarrassing (25%). Over half of the sample reported forgetting to use their NT (54%) or using it only when they feel breathless (41%). Participants were allocated to low adherence (n=14) vs. high adherence (n=45) groups according to their MARS score. Low adherence was associated with doubts about nebuliser necessity (t(57)=−2.94, p < 0.01), and to how patients’ rated their personal need for nebuliser relative to their concerns about potential adverse effects (necessity-concerns differential score) (t(57)=−2.107, p < 0.05).

Conclusions: Strategies to support CF patients’ adherence to NT should consider their necessity beliefs and concerns.

WS4.3 Barriers to adherence in cystic fibrosis: the perspectives of young patients and their parents
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Objectives: The objectives of the present study was to explore barriers to treatment adherence perceived by young CF patients and their parents and to identify what kind of support the young patients and their parents request from the CF center.

Methods: A questionnaire survey of a cohort of young Danish patients with cystic fibrosis aged 14 to 25 years and their parents.

Conclusions: The present study showed that the majority of adolescents with CF and their parents experienced barriers to treatment adherence. Patients and parents agreed that the three most common barriers encountered lack of time, forgetfulness and unwillingness to take medication in public. A significant, positive correlation was found between the number of barriers and the perceived treatment burden.

Additionally, we found that almost half of the adolescents and half of the parents conveyed a desire for more information about the potential consequences of low adherence.

WS4.4 The effect of remote monitoring and third party intervention on adherence with inhaled therapies in patients with cystic fibrosis using the I-neb Insight Online patient management system
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Background: Inhaled therapy is an important aspect of the management of patients with Cystic Fibrosis. Adherence to multiple, often time consuming, treatments remains a challenge to both patients and care providers.

Methods: 24 CF patients took part in a 13 week handling study of the I-neb Insight Online patient management system conducted by Philips Respironics using the I-neb patient logging system (PLS). PLS provided remote feedback (a record of date, time, duration, completeness of treatment, inhalation time, rest time and mesh integrity) to the patient, patient support programme (PSP) personnel, and clinician via the internet. Patients were contacted by PSP if results from PLS data triggered any alerts. A service evaluation was performed to establish whether this should be available for all patients using I-neb.

Results: 17/24 patients completed the study. Median (range) adherence to nebulised therapy prior to the study was 67.9% (14.28% – 96.34%) and 86.37% (34.61% – 117.58%) during remote monitoring. Results were analysed using McNamaras’s test (Minitab Version 14). Although there was a general trend towards improved adherence this did not reach statistical significance (P = 0.1579).

Remote monitoring and third party intervention improved adherence in 13/17 patients who completed the study. Of those who did not improve 3 patients demonstrated greater than 91% adherence prior to starting remote monitoring. Due to the small numbers of patients statistical significance was not achieved, but data suggest clinical benefit. We would conclude that I-neb Insight can have significant impact on improving adherence in individual patients and should be available as part of routine clinical care.