disease (39%, 28%, 53%, p=0.001) and arthritis (8%, 9%,16%, p=0.02) – all factors associated with sleep problems. There were no clinically relevant between-biomarker-cluster differences in the proportions with insomnia (17%, 18%, 20%) either before (p=0.76) or after (p=0.75) adjustment for potential confounders. Few associations were observed among other actigraphy, oximetry and PROMIS measures.

Conclusion: Despite observed differences in clinical factors associated with sleep problems, we found no consistent or strong associations between inflammatory biomarker clusters and a range of sleep outcomes. Although associations could exist with other sleep outcomes (e.g. sleep architecture) or biomarker types (e.g. cerebrospinal fluid) not assessed, our findings do not support a strong association between sleep and plasma inflammatory biomarkers in this population.

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0596

SLEEP DISTURBANCES IN CYSTIC FIBROSIS AND PRIMARY CILIARY DYSKINESIA OVER TIME, BEFORE AND AFTER MODULATOR THERAPY

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Introduction: Prior studies have shown that cystic fibrosis (CF) and primary ciliary dyskinesia (PCD) are associated with sleep disturbances affecting quality of life (QOL).Our aim was to analyze changes in sleep complaints over time in patients with CF and pancreatic insufficiency (CF-PI), pancreatic sufficiency (CF-PS) and PCD, and explore the effect of CFTR modulators.

Methods: Patients completed age-appropriate sleep quality questionnaires (SDSC, PSQI), quality of life questionnaires (PedQL, QOL-BE) and the Epworth sleepiness scale (ESS). They repeated the same questionnaires 3 years later. In addition, medical records were reviewed for clinical data.

Results: Of a total of 50 patients, 27 were children and 23 were adults: 33 CF-PI, 8 CF-PS and 9 PCD. On the 3-year follow up questionnaires the PSQI revealed reduced sleep quality in 11 adult patients (47%), and the SDSC score was pathological, in 5 children (18.5%), suggestive of high rates of disturbed sleep. In children the mean SDSC score had not changed from baseline (41.1±11.5) to follow up (42.5±12.35; p=0.778). In adults the PSQI increased from 3.7±2.5 to 4.5±2.8 (p=0.075), most pronounced in adults that were not on modulators (3.9±2.7 to 4.8±3.4; p=0.027). This effect was driven primarily by changes in sleep initiation and maintenance domains. There were no other differences in the sleep complaints between CF-PI, CF-PS and PCD patients, or between patients on and off modulator therapy during the study period.

Conclusion: Over time, quality of sleep worsened in patients with CF and PCD, particularly the ability to initiate and maintain sleep. Our results may suggest that modulator treatment attenuates the worsening of sleep complaints, however, larger studies are needed to clarify this.

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THE RELATIONSHIP BETWEEN SLEEP QUALITY AND FUNCTIONAL OUTCOMES FOLLOWING ACUTE STROKE AND INPATIENT REHABILITATION

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Introduction: There is mounting evidence that sleep plays an important role in the rehabilitation and recovery process following acute stroke. Following acute care, many patients with stroke are admitted to inpatient rehabilitation facilities (IRFs), where they undergo intensive, interdisciplinary therapy to recover or relearn functional skills to minimize long-term disability. The role and impact of sleep in this early stage of stroke rehabilitation, however, is poorly understood. The purpose of this study is to investigate the relationship between sleep quality and clinical outcomes in the IRF setting following acute stroke.

Methods: Patients wore a collection of wearable sensors to measure sleep and wake throughout their IRF stay. Linear mixed-effect models (LMEMs) were built to determine the relationship between functional outcomes and sleep quality. Independent variables were total sleep time (TST) and sleep efficiency (SE) derived from wearable sensors, calculated between two clinical measures. Dependent variables included scores from repeated measures of the 6-Minute Walk Test (6MWT), 10-Meter Walk Test (10MWT), Berg Balance Scale (BBS), and Action Research Arm Test (ARAT). Covariates included demographics such as age and stroke type.

Results: Fifty-three individuals with stroke (age: 58.26±15.57 years; BMI: 28.27±6.16 kg/m2) consented to participate during their IRF program within 7 days of admission. All individuals were recruited from a single-site IRF between July 2020 and August 2021. The average length of stay was 17.85±6.99 days. There were no significant differences in TST between the first three nights and the last three nights (5.1±1.9 hours vs. 5.2±2.0 hours) or SE (67.8±17.7% vs. 69.0±17.8%). The greater standard deviation of TST was associated with lower 6MWT scores (R2=0.77, beta=−0.48, p=0.06), while the greater standard deviation of SE was associated with lower 10MWT scores (R2=0.80, beta=−0.20, p=0.18).

Conclusion: Our preliminary findings indicate that greater variability in TST and SE are associated with walking endurance and mobility recovery. Future analyses will investigate additional measures of sleep and activity in IRF settings and their relationship with patient outcomes. This work can inform novel sleep interventions to optimize post-stroke recovery.

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