SVI.3

Provider perspectives on mHealth with remote spirometry to address health disparities in COPD care

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Background: Mobile Health (mHealth) interventions including remote spirometry offer potential solutions for COPD diagnosis and management among patients living in underserved areas. Health care provider (HCP) perspectives can inform development of novel mHealth interventions to ensure usability and acceptability within underserved healthcare settings. Thus, our study's purpose was to explore HCP perspectives on mHealth and remote spirometry for COPD.

Methods: A deliberative discussion focus group (qualitative descriptive framework) was used to generate robust discussion with interaction between group members. Five HCP experienced in providing care for uninsured patients with health disparities in COPD were recruited using purposive and snowball sampling. Open-ended, circular questions prompted discussion on mHealth and technology in clinical practice. Data were collected in February 2023 and analyzed using a qualitative content analysis with inductive approach.

Results: Participants described complexity of care for patients with COPD in a free clinic setting. Perceptions of mHealth in COPD care varied from positive perceptions of addressing disparities (including healthcare access and social determinants of health) to concerns about potential barriers including integrating new technology and time constraints. Consensus was with appropriate resources, mHealth technology could be useful for COPD self-management. Needs identified were additional technological support, training/ education, and implementation guidance.

Discussion: These results will be used to inform future mHealth intervention development and provide information on provider perspectives on the use of mHealth in the care of COPD in a free clinic setting with opportunities for improving care, integrating technology, and potential barriers that may impede implementation of mHealth in this setting.

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SVI.4

Cognitive, psychological and physical functioning in post COVID-19 patients with different levels of fatigue: a descriptive abstract

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Background: Recent studies have shown that a growing number of mild COVID-19 cases experience prolonged symptoms, reporting a range

of disabling symptoms such as fatigue, shortness of breath, cognitive impairment, memory loss, and mental health and employment issues up to months following the infection. This has recently been accounted for by the World Health Organization, which has defined post COVID-19 as a condition that usually occurs three months from the onset of COVID-19 with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis. A data-driven identification of subgroups of post COVID-19 could help in referring this clinically heterogeneous group of patients to the appropriate care. However, most of the evidence has been obtained through self-reported and retrospective surveys, lacking inperson monitoring and assessment of cognitive, physical, and psychological functioning. Therefore, this study aims to provide a comprehensive profile of individuals with post COVID-19 and identify subgroups based on their characteristics.

Methods: All participants with a confirmed history of COVID-19 and persisting symptoms that cannot be explained by an alternative diagnosis will be eligible to participate. Data collection will include an assessment of fatigue (fatigue severity scale) and post COVID daily functioning levels, physical functioning (grip strength and six-minute walk test), End-Tidal CO2, psychophysiological functioning (heart rate variability, skin conductance, and respiration) using the Stroop Color Word-, Arithmetic-, and Stress Talk tasks; cognitive functioning (Montreal Cognitive Assessment) and psychological functioning (Multimodal evaluation of sensory sensitivity, MINI-S, Short Neuropsychiatric Interview).

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SVI.5

Neural processing of errors in patients with asthma

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Background: Dyspnea is a cardinal symptom in asthma patients. It represents a bodily error signal, indicating a discrepancy between heightened ventilatory demand and insufficient ventilatory response. This study examines error-related negativity (ERN) and error positivity (Pe), electroencephalogram (EEG) potentials reflecting early error detection and awareness, in asthma patients during a forced choice reaction task. We hypothesized that higher ERN and Pe amplitudes compared to healthy controls may indicate heightened error sensitivity, potentially linked to greater dyspnea and anxiety experiences.

Methods: Using high-density EEG, we studied 13 asthma patients $(Age = 51 \pm 20)$ and 9 age-matched controls $(Age = 36 \pm 14)$ performing the Flanker task during two 1.5-minute blocks. ERN was the mean amplitude of early negative EEG deflection (\leq 100ms after error) over fronto-central scalp positions; Pe was the mean amplitude of positive deflection (150-400ms after error) at centroparietal sites.

Results: Linear mixed effects models revealed no significant ERN score difference between asthma patients and healthy controls (F (1,16)=0.03, p=.863). However, patients exhibited stronger Pe amplitudes (M=5.98, SD=3.97) than controls (M=3.15,