Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

SUNDAY

428 Improving Mobile Health for Asthma in a Pandemic: Patient Use of an Integrated COVID-19 Screener

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RATIONALE: Mobile health (mHealth) tools for difficult-to-control asthma in the ambulatory setting are lacking despite the need for routine symptom monitoring. While asthma is not a risk factor for COVID-19 infection, knowledge of COVID-19 symptom burden among patients with asthma is limited.

METHODS: In prior work, we developed an mHealth asthma app for patient symptom reporting between clinic visits. In the context of COVID-19, we integrated a COVID-19 symptom screener into the app. Patients were also prompted to complete the screener when reporting worsening asthma control. We conducted a nested subgroup analysis of screener use among patients enrolled in an ongoing clinical trial of the app at an academic medical center.

RESULTS: A total of 101 patients were enrolled to the app; 75 (74.3%) used the COVID-19 screener between March-August 2021, averaging 4.04 uses per patient. Among screener users, 77% were female, 24% Black, and 24% Hispanic or Latino. For patients with worsening asthma symptoms, weekly screener completion rates ranged from 57.1% to 94.4%. Rhinitis (50%) and headache (38.8%) were the most frequently reported symptoms. Unexpectedly, dyspnea (28.6%) and cough (18.4%) were less common. Myalgias (6.1%), diarrhea (6.1%), and anosmia (2.0%) were least common. 49.4% of patients reported single symptoms, and 28.6% reported ≥4 combined symptoms.

CONCLUSIONS: We present a scalable use case for integrating COVID-19 tools into patient-reported, asthma-focused mHealth, facilitating symptom monitoring during a pandemic. Symptom data can inform acute care management and improve understanding of COVID-19 manifestations in patients with asthma supporting public health efforts and longitudinal study.

429 The Impact of the COVID-19 Pandemic on Food Allergy Families

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RATIONALE: Food allergy families face unique challenges associated with modified activities of daily living and access to appropriate foods. It is important to understand how food allergy families were impacted by the COVID-19 pandemic.

METHODS: Food allergy caregivers completed an online survey regarding the impact of COVID-19 from 9/25/2020-1/15/2021. This survey was adapted from validated surveys The Chicago Food Allergy Research Surveys for Parents of Children with Food Allergy and The Johns Hopkins University Community Response Survey. The Wilcoxon rank-sum test, Kruskal-Wallis test, Fisher exact test, pairwise Fisher exact test, and pairwise Wilcoxon rank-sum test were used for analysis.

RESULTS: Food allergy caregivers (n=312, 96% female, 75% non-Hispanic white) reported the COVID-19 pandemic had an impact on their families. This impact manifested as problems with access to all food (45%) and allergen-free food (48%), increased stress (98%), increased discord within the home (72%), decreased household income (40%), increased reliance on processed foods (57%), changes in access to medical care (66%), and limited access to friends and family (94%). More caregivers with income ≤$200,000 had financial stress ($p<0.001$) and lack of access to food ($p=0.02$) than caregivers with income>$200,000.

CONCLUSIONS: Food allergy families have experienced significant changes in their daily lives due to the COVID-19 pandemic. Changes in access to food, household income, and access to medical care were observed in addition to increases in stress and discord with a reduction in traditional support networks.

430 Dupilumab achieves durable reduction in severity of symptoms rated most important by patients with chronic rhinosinusitis with nasal polyps

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RATIONALE: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a predominantly type 2-mediated inflammatory disease with high symptom burden. Dupilumab significantly improved 22-item Sino-Nasal Outcome Test (SNOT-22) total score vs placebo in SINUS-24 (NCT02912468) and SINUS-52 trials (NCT02898454). This post hoc analysis investigated dupilumab's effect on the severity of the 5 most important SNOT-22 items from pooled SINUS-24/SINUS-52 populations.

METHODS: Patients rated the 5 most important SNOT-22 items, and ranked items on a 6-part severity scale from "no problem" to "problem as bad as it can be" at baseline, W24, and W52. For this analysis, "no problem" or "very mild problem" were considered low severity; "severe" or "problem as bad as it can be" as high severity.

RESULTS: At baseline, the 5 most important SNOT-22 items were: "Decreased Sense of Smell/Taste", "Nasal Blockage", "Post-Nasal Discharge", "Thick Nasal Discharge", "Wake Up at Night". Dupilumab (W24 N=438; W52 N=150) reduced the proportion of patients reporting high severity and increased the proportion of patients reporting low severity vs placebo (W24 N=286; W52 N=153) for all 5 items at W24 and W52 (all $P < 0.0001$). The most marked effects at W24 were on "Decreased sense of smell/taste" (odds ratio [95% CI] dupilumab vs placebo: high severity 0.091 [0.062, 0.134], low severity 8.493 [5.389, 13.386]) and "Nasal blockage" (high severity 0.188 [0.127, 0.278], low severity 8.617 [5.797, 12.811]), with results maintained or enhanced at W52.

CONCLUSIONS: Dupilumab reduced the severity of CRSwNP symptoms patients report as most important at W24 with improvements sustained or enhanced through W52.