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Profile of patients attending a pediatric allergic clinic during COVID-19 pandemic-related lockdown: how many children could have been approached with telemedicine?

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To the Editor,

the COVID-19 pandemic has had an unprecedented impact on healthcare systems and caused hospital overload (1). For the control of the disease and to use the limited healthcare resources appropriately, it is an urgent need to plan hospital arrangements and make appropriate triage (2). In this study, we aimed to find out which patients presented to a pediatric allergy outpatient clinic in the era of the COVID-19 pandemic during curfew. We also assessed the appropriateness of the in-person visits compared to virtual consults which is preferred for safe distancing efforts to better control the pandemic situation. This is a retrospective study researching children who were admitted to the pediatric allergy outpatient clinics

between March and June 2020 in a tertiary care children's hospital. Ethics committee for clinical research of Ankara Training and Research Hospital approved the study on November 26, 2020 - protocol code: 93471371-514.10.

The demographic features, the diagnosis of the patients, the severity and control level of their medical conditions and the suitability of cases for virtual visits were recorded from the medical files. Medical conditions of children's suitability for virtual visits or demands for face-to-face interventions were detected according to the COVID-19 Pandemic Contingency Planning for the Allergy and Immunology Clinic and are shown in **table I** (3).

A total of 563 patients (352 boys, 211 girls) visited the clinic for allergic diseases during the curfew period. The median age

Table I - List of medical conditions considered suitable for in-person medical assessment during a restriction (3).

Medical conditions	Need for face-to-face evaluation
Asthma	Uncertain diagnosis. Uncontrolled asthma. Exacerbations requiring emergency room or hospitalization in the last 3-6 months. Requiring ≥ 2 oral steroid courses in the last 3-6 months. Requiring ≥ 1 dose escalation/addition of any daily controller medication in the last 3-6 months.
Allergic rhinitis	No prioritizing recommendation.
Immunotherapy and biologics	Patients on maintenance doses of biologics and immunotherapy (consider converting the patient to a prefilled syringe for potential home administration if available).
Food/drug/vaccine allergy	Acute need for reintroduction. Diagnostic uncertainty.
Anaphylaxis	Symptoms that do not immediately resolve after a single dose of epinephrine. Symptoms with recurrence.
Allergic skin disorders	Severe cases of angioedema (such as pharyngeal/laryngeal, abdominal, or genital involvement). Acute episodes of known hereditary angioedema. Severe atopic dermatitis (defined according to SCORAD score). Atopic dermatitis with super-infection.

(interquartile range) of the patients was 76 months (21-131). The most common presentations were asthma and allergic rhinitis. Of a total of 176 patients with asthma, 66% had mild, 31.8% had moderate and 2.2% had severe asthma. Overall disease control, evaluated by using the Global Initiative for Asthma (GINA) 2020 assessment, was good, with only 5.1% of the patients' asthma being uncontrolled. Of all patients, 56 (9.9%) needed face-to-face interventions. 79 patients (14%) were evaluated by phone service, and more than half were for medication refills. The details of the patients' hospital admission and examination are shown in **table II**.

Of the patients who were determined as unsuitable for virtual visits, 26.7% had asthma, 46.4% had an active skin disorder (severe angioedema, severe atopic dermatitis, atopic dermatitis with superinfection, vasculitis), 14.2% had a food allergy (service adjustment for introduction/reintroduction of food/formula that is a critical nutritional need), 25% were treated with subcutaneous allergen immunotherapy, and 1.8% were treated with biologicals. Our results suggest that most of the patients had non-urgent health problems, and most of them were appropriate for virtual healthcare visits. In recent publications, the majority of the outpatient visits during the pandemic were non-emergent as ours (4-6). The most common reason for healthcare attendance in the current study was asthma, followed by allergic rhinitis. High asthma severity risk or uncertain diagnosis and needs of service adjustment for subcutaneous allergen immunotherapy (SCIT) or biologics are the most noticeable medical conditions that need to be evaluated face-to-face. However, most of the asthma patients presenting

were well-controlled, and the visits could be postponed. There is no need to prioritize the evaluation of patients with allergic rhinitis for face-to-face visits, except for ongoing SCIT (3). The inappropriate use of medical services points out that the elective hospital applications and appointments created by patients, as in the routine process, may not be appropriate for pandemic control. Telemedicine, smartphones and apps allow patients to get medical services in a safe way (7). Telephone tri-

Table II - The details of the patients' hospital admission and examination.

	Number of patients (%) n = 563
Patient	
Inpatient	30 (5.3)
Outpatient	454 (80.6)
Phone service	79 (14)
Living place	
Ankara (province where the hospital is located)	532 (94.5)
Out of Ankara	32 (5.5)
Number of hospital visits	
0 (only phone call, no hospital visit)	79 (14)
1	390 (69.3)
2	67 (11.9)
3	20 (3.6)
> 3	7 (1.3)



	Number of patients (%) n = 563
The diseases of patients	
Asthma	176 (31.2)
Well controlled	149 (85)
Partially controlled	18 (10)
Uncontrolled	9 (5)
Allergic rhinitis	149 (26.4)
Dermatitis*	128 (22.7)
Food allergy	60 (10.6)
Urticaria-angioedema	30 (5.3)
Non-allergic cutaneous conditions**	27 (4.7)
Drug allergy	16 (2.8)
Anaphylaxis	16 (2.8)
Chronic cough and/or LRTI***	15 (2.6)
Immune deficiency	9 (1.5)
Mastocytosis	4 (0.7)
Venom allergy	3 (0.5)
Other miscellaneous	7 (1.2)
Need for examination by laboratory tests of body fluid (blood, urine)	102 (18.1)
Performance of skin prick test/intradermal test	
Performed	99 (17.6)
Not performed	464 (82.4)
Treatment with allergen immunotherapy/biological agents	15 (2.7)
Potentially exposed to Coronavirus	10 (1.8)
Presenting with one of potential COVID-19 symptoms	
Cough, fever, sore throat	23 (4.1)
Exanthem	151 (26.8)
Suitability for telemedicine	
Needs face-to-face intervention	56 (9.9)
No need face-to-face intervention	507 (90.1)

*Atopic dermatitis, allergic/irritant contact dermatitis, seborrheic dermatitis; **cutaneous conditions due to infectious, metabolic, dermatological or autoimmune reasons; ***LRTI: lower respiratory tract infections.

age can prevent unnecessary contact and direct available patients to telemedicine. In conclusion, according to our clinical experience in a period of curfew and strict social isolation during the

pandemic, guiding all patients with digital health technologies before outpatient clinic examination would be a useful approach to reduce contact and the burden of healthcare professionals.

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Contributions

All authors contributed equally to this work.

Conflict of interests

The authors declare that they have no conflict of interests.

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