COVID-19 & Allergy: Allergists Workload During the Pandemic

I. Fernández-de-Alba[1], C. Brigido[2], I. García-Gutierrez[3], D. Antolín-Amérigo[3], S. Sánchez-García[4]

[1]Hospital HLA Inmaculada, Granada, Spain
[2]Servicio de Alergología Hospital Universitario de Burgos, Burgos, Spain
[3]Servicio de Alergia Hospital Universitario Ramón y Cajal (IRYCIS), Madrid, Spain
[4]Servicio de Alergología Hospital Infantil Universitario Niño Jesús, Madrid, Spain

Corresponding author:

Isabel Fernández de Alba Porcel

Hospital HLA Inmaculada

Doctor Alejandro Otero, 8 18004 Granada, Spain

E-mail: isabelfdezaba@gmail.com

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To the editor,

The COVID-19 pandemic has caused a profound impact in our clinical practice as healthcare professionals and as allergists it has been deeply altered.

The need of an alternative approach to attend our patients was compelling. Telemedicine is defined as the use of information and communication technologies for the management of diseases and medical education [1].

We aimed to understand the situation and role of allergists during the COVID-19 pandemic, as well as to convey our experience with the subsequent implementation of telemedicine as physicians.

Allergists were encouraged to participate in an online survey anonymously (created with Typeform©), shared via social media and email, also sent by the Spanish Society of Allergology and Clinical Immunology (SEAIC). It consisted of seventeen questions formulated as: multiple-choice, yes/no, rating scale and open questions, in three sections: demographic data (age, gender and workplace), role of allergists in the pandemic and their experience with telemedicine.

The results of the survey were analyzed using Microsoft Excel (pivot tables). Data was collected from 9th May to 3rd June 2020.

Out of 275 (72% women, 28% men) surveyed allergists, 92.7% worked in Spain. Mobile phones were mostly used to fill it (235 answers versus 54 from computers; none from tablets), needing 2.08 minutes average. Most of our interviewees belonged are 50 to 60 years old (12.2%; n=31). Additionally, the age-bracket under 30 years-old was almost as frequent as the age-bracket over 60 years-old (n=7 and n=8, respectively).

About their role in COVID-19 pandemic: 85 allergy specialists (40.5%) took part in COVID-19 teams. Their assistance was mainly 1-4 weeks (n=42; 49.4%). They worked mostly in Internal Medicine (n=60; 71%) than in Emergency (n=18; 21.2%), COVID-19 temporary patient care centers (e.g. field hospital), nursing homes (n=3; 3.6%) or telephone follow-up (n=4;4.7 %).

Both allergists who worked on public and private healthcare, were involved in COVID-19 teams. Nevertheless, specialists who worked exclusively on the public healthcare (n=60; 48%) led COVID-19 teams compared with those who worked only on private healthcare (n=11, 8.8%).

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The proportion of allergy residents (n=42) who took part in the active care of COVID-19 patients were clearly higher (n=39; 92.9%). The number of weeks being involved was also longer: 82.1% worked more than four weeks (n=32).

Regarding specific allergy activity, 81.6% allergy specialists who did not enroll at COVID-19 teams (n=125), maintained their activity as allergists (n=102). It highlights that, from the allergy specialists working on COVID-19 teams (n=84), 55.3% coworked in their allergy practice (n=47).
Allergy residents worked in COVID-19 teams (n=38). It is remarkable that the 31.6% (n=12), worked on allergy units concurrently.

Most allergy specialists performed Allergy consultations (71%, n=149), mainly upon telephone (n=102; 40%) followed by on-site consultations (15.7%, n=40). Lastly, phone and video consultations together were used by 7.8% of allergists surveyed. The less used option was video calls only (n=3). Telephonic together with on-site visits were used as the same time by some of our respondents. Phone applications for instant messages and e-mails were also used. Video calls were more used in private healthcare (19.2%; n=10 from 52 allergists with private activity) vs 4% from the total of allergists working on the public system, n=125).

Regarding to perception of telemedicine as tool for clinical practice, a global perception score of 6.9 stands out (from 0 as “totally negative” to 10 as completely positive). There is no remarkable difference in public (6.92) or private healthcare (6.96). It outlines that specialists from 30-40 years-old (n=33), gave the maximum score (7.6) compared to other groups. It was slightly higher among women than men (7.02 versus 6.81). Allergy residents (mainly <30 years old), rate telemedicine as 7; while specialists, (mostly aged 50-60), punctuated it a 6.81.

When asked about the implementation of telemedicine, 43.5% gave an affirmative answer, 16.1% were uncertain and 5.1% opposed. Finally, they were able to judge the use of technology at Allergy consultation. Even though advantages have been recognised, many disadvantages have also been highlighted: no option for complementary tests, legal concerns and the extra time sometimes needed to do phone calls. Allergists stated that telemedicine will remain after the pandemic and that more tools are needed for its implementation.

There are shortcomings in our proposal: not all questions were answered (were not mandatory). Multiple-choice answers have limitations, which could represent a bias. A strength to consider from our initiative is that there are no previous similar surveys on Allergy specialty to compare our data with. Canary Allergy Service recently published their experience with the implementation of telemedicine during this pandemic, which consider as another tool to keep using in our daily practice in the future [2].

Hence, in the last fifteen days, the transformation has been faster and deeper than in the last fifteen years [3]. This online-survey helped us to understand the role of allergy specialists during the COVID-19 pandemic and how they managed changes related with new health care routines [4-6] while providing medical assistance to COVID-19 patients.

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Telemedicine is making allergists change its perception, from a plaguing state to acceptance [6]. It has the "potential to cause a transformational change in the way care is delivered by altering interaction between patient and provider" [7]. It is crucial to reinvent our existing systems and find one that satisfies both patients and physicians [8]. The fast implementation of telemedicine made us realize that it is needed to identify the key barriers [9] and it will not be a secondary option in our way forward [10].

The conclusions are summed up in the figure (Supplementary Figure), COVID-19 pandemic meant a sudden and challenging transformation of our workload. More than half of allergists worked on COVID-19 teams and practically all allergy residents lead the effort working in them. Telemedicine was needed subsequently. It is perceived that allergists accept the implementation of telemedicine. Whereas, its disadvantages have been reflected in the survey. And reflect that it does not improve the quality of our assistance. Nonetheless, further social analysis to collect professionals' opinions are needed to understand better new technologies in our daily allergy practice, facing the new "post-pandemic" future.

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Figure. Data summary

DATA SUMMARY						
Participants recluted			255			
Demographic data						
Age group (years-old)	**<30**	**30-40**	**40-50**	**50-60**	**>60**	Not specified
	7 (2.7%)	24 (9.4%)	23 (9%)	31 (12,2%)	8 (3,1%)	162 (63,5%)
Gender	**Women**	**Men**				Not specified
	67 (26.3%)	26 (10,2%)				162 (63,5%)
Health care system	**Public**	**Private**	Both			Not specified
	125 (49%)	52 (20,4%)	36 (14,1%)			42 (16,5%)
Specialty	**Allergists**	**Allergist residents**				Not specified
	210 (82.4%)	42 (16.5%)				3 (1.2%)
Allergists role in COVID-19 pandemic						
Total of respondants to this items	255 (100%)					
Allergy specialist who assisted COVID-19 patients	***Yes***	***No***				***Total***
	85 (40.5%)	125 (59.5%)				210
Duration of assistance to COVID-19 patients by Allergy specilists	***>4 weeks***	***1-4 weeks***	***<1 week***			***Total***
	33 (38.8%)	42 (49.4%)	10 (11.8%)			85
Number of Allery specialist who participated in COVID-19 teams	***Internal Medicine***	***Emergencies***	***Others***	***telephone-follow up***		***Total***
	60 (71%)	18 (21%)	3 (3.5%)	4 (4.5%)		85
Allergy residents who assisted COVID-19 patients	***Yes***	***No***				**Total**
	39 (92.9%)	3 (7.1%)				42
Duration of assistance to COVID-19 patients by Allergy residents	***>4 weeks***	***1-4 weeks***	***<1 week***			***Total***
	32 (82.1%)	6 (15.4%)	1 (2.5%)			39
Number of Allery residents who participated in COVID-19 teams	***Internal Medicine***	***Emergencies***	***others***			***Total***
	23 (59%)	14 (35.9%)	2 (5.1%)			39
Allergy consultation while caring COVID-19 patients						
	Yes	***No***				*Total*
Allergy specialists who made allergy consultations in this period	149 (71%)	61 (29%)				210
Allergy specialists who worked with COVID-19 patients	47 (55.3%)	38 (44.7%)				85
Allergy specialists who didn't work with COVID-19 patients	102 (81.6%)	23 (18.4%)				125
Allergy Residents	14 (33.3%)	27 (64.3%)	not specified= 1 (2.4%)			42
Telemedicine						
Global perception score		6,98				
Perception given by gender	***Women***	***Men***				
	7,02	6,81				
Score given depending on health care system of workplace	***Public health system***	***Private health system***				
	6,92	6,96				
Tools of telemedicine used	***Telephone calls***	***On-site consultation***	***Telephone and Video calls***	***Video calls***	*Not specified*	***Total***
	102 (40%)	40 (15.7%)	20 (7.8%)	3 (1.2%)	90 (35.3%)	255
Implementation	***Yes***	***No***	***Not sure***		*Not specified*	***Total***
	111 (43.5%)	13 (5.1%)	41 (16.1%)		90 (35.3%)	255