ORIGINAL ARTICLE

Social Media as a Tool for the Management of Food Allergy in Children

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Abstract

Background: Food allergy markedly impairs quality of life, and avoiding the offending food requires extensive patient education. Social media have been proven a useful source of information for other chronic conditions. Our aim was to describe how pediatric patients with food allergy and their families are using social media.
Methods: We performed a cross-sectional study in the pediatric allergy unit of a tertiary hospital. Patients with food allergy were questioned about their disease and their use of social media. The survey was completed by the patients themselves in the case of those aged over 13 years and by parents or guardians in the case of younger patients.
Results: We included 193 patients (162 guardians, 31 adolescents). Social media were used by 109 guardians (67.3%) and 29 adolescents (90.3%), of whom 30.3% and 6.9%, respectively, used them for food allergy–related purposes. The most popular websites were Facebook for guardians (52.2%) and YouTube for teenagers (80.6%). Having cow's milk and/or egg allergy was the only feature related to using social media for food allergy. Using social media for information on food allergy did not correlate with the frequency of recent reactions, self-scored knowledge about food allergy, or opinion on evidence-based or alternative therapies for the disease.
Conclusions: Most patients and guardians of patients with food allergy used social media. However, only a small portion accessed used them to increase their knowledge of the disease.

Key words: Social media. Internet. Food allergy. Pediatrics. Information.

Resumen

Introducción: La alergia alimentaria afecta a la calidad de vida de quienes la sufren. La evitación de los alimentos que la producen exige la educación de los pacientes. Las redes sociales han demostrado ser una fuente útil de información acerca de otras enfermedades crónicas. El objetivo de este estudio fue describir el uso de las redes sociales por parte de los pacientes en edad pediátrica con alergia alimentaria, así como el de sus familias.
Métodos: Se realizó un estudio transversal en la Unidad de Alergia Infantil de un hospital de tercer nivel. Se encuestó a pacientes diagnosticados de alergia alimentaria, acerca de su enfermedad, así como de su uso de las redes sociales. La encuesta fue cumplimentada por los propios pacientes a partir de los 13 años de edad, mientras que los tutores lo hicieron en los casos de pacientes menores.
Resultados: Se incluyeron 193 pacientes (162 tutores y 31 adolescentes). Las redes sociales eran utilizadas por 109 tutores (67,3%) y 29 adolescentes (90,3%), de los que el 30,3% y el 6,9%, respectivamente, lo hacían en relación con la alergia alimentaria. Las páginas web más frecuentes eran Facebook™ en el caso de los tutores (52,2%) y YouTube™ entre los adolescentes (80,6%). Ser alérgico a la leche y/o al huevo era la única característica que se relacionó con el uso de redes sociales en relación a la alergia alimentaria. El uso de las redes sociales para informarse acerca de la alergia a los alimentos no se correlacionó con la frecuencia de reacciones, la percepción del conocimiento propio acerca de la alergia alimentaria o la opinión sobre terapias científicas y alternativas para su enfermedad.
Conclusiones: La mayoría de los pacientes con alergia alimentaria y sus tutores son usuarios de las redes sociales. Sin embargo, sólo una pequeña porción las utiliza para formarse acerca de su enfermedad.

Palabras clave: Redes sociales. Internet. Alergia a alimentos. Pediatría. Información.

Introduction

The use of internet and, particularly, social media, has dramatically increased in recent years. The number of allergists using social media to disseminate scientific data has grown extensively around the world, as has the number of patients using them to access information concerning their conditions [1]. A potential use is to improve information sharing [2].

Food allergy affects numerous children and is responsible for substantial morbidity, impaired quality of life, and costs to the individual, family, and society [3]. A key strategy in the management of food allergy involves eliminating the offending food from the diet. Avoidance requires extensive patient education. Yet, unintended exposure is not uncommon. Therefore, food-allergic patients usually need to search for additional information, which can increase their knowledge and sense of safety [4].

Internet and social media have proven useful as a source of information for patients with other conditions, such as diabetes [5], psoriasis [6], and psychiatric disorders [7]. Evidence also supports the utility of social media and other electronic channels in allergic conditions [8,9]. Despite the efforts of scientific societies and patient associations to disseminate reliable content through social media and the internet, there is still a gap in knowledge of food allergy among the general population and among patients themselves [10].

Few studies evaluate the impact of social media on allergic patients. While there are indications that social media might have a beneficial effect in other allergic diseases [11], a paradoxical effect also seems possible [12,13], in the form of incorrect and potentially harmful information [14,15]. Thus, it seems important to increase knowledge about the use of social media by food-allergic patients and their families in order to better direct educational efforts. This could result in improved information on the disease and a subsequent decrease in morbidity.

The aims of this study were to describe how pediatric patients and their families use social media as a source of information on food allergy, to investigate differences between users and nonusers, and to evaluate the impact of social media on the burden of food allergy.

Methods

Overview

We performed an observational, cross-sectional study of patients with food allergy attended in the Pediatric Allergy Unit of Hospital General Universitario Gregorio Marañón, Madrid, Spain between October and November 2016. Our hospital is a reference centre for a catchment population of 650,000 people in the city of Madrid. Use of social media is not encouraged by physicians from the unit.

Participants were approached and invited to complete an anonymous survey if they had been diagnosed with food allergy. The survey was presented on paper and completed in the office by the guardians of patients aged 12 years and younger and by patients aged 13 and older themselves. The limit was set at 13 years, because that is the age set by the terms of use of most social networks. The survey design and implementation were approved by the Ethics Committee for Medical Research of our institution, and written informed consent was obtained from all participants.

Survey

The survey contained 24 questions (included as Supplementary material). Most of the questions were asked in a dichotomous format. Demographic data including age, sex, and allergy history were collected, as was information regarding food allergies, disease duration, number of reactions in the previous year, history of anaphylaxis, and use of epinephrine.

Participants were asked to quantify their knowledge about food allergy on a visual analog scale (1 to 10), as well as their opinion on that of the general population. They were questioned about their use of personal computers and other internet devices, personal internet connection habits, whether they were users of social media, their frequency of use of social media, and which networks they used for any purpose and for food allergy–related content. They were also asked about food allergy–related use of social media, which types of users they followed on social media, food allergy–related use of other mobile applications, and instant messaging.

Finally, using the VAS, all participants were asked to quantify the utility of social media as a source of information on food allergy, as well as their opinion on evidence-based and alternative therapeutic options (1 to 5 or unknown).

Data Analysis

The statistical analysis was performed using IBM SPSS Statistics 20.0 for Windows. Qualitative variables are expressed as frequency, and quantitative variables are expressed as median and interquartile range (IQR).

Categorical variables were compared using the chi-square test, Fisher exact test, and crude odds ratio (cOR); quantitative variables were compared using the Mann-Whitney test, Wilcoxon signed-rank test, and Kruskal-Wallis 1-way analysis of variance. A multivariate logistic regression model was used to assess independent variables and their adjusted odds ratio (aOR).

A projected sample size of 200 participants was based on a population use of social media of 40% and a response rate of 50%.

Results

Patients returned 193 completed surveys (response rate 96.5%). Guardians of patients younger than 13 years represented 84% of the sample, and 16% of patients were 13 or older. Demographic data are listed in Table 1.

One in 5 Guardians Use Social Media to Obtain Information on Their Children's Food Allergy

Guardians of 162 patients under 13 completed the survey, since the terms of use agreement of the major social media networks do not accept users under this age. The group

Table 1. Characteristics of Patients With Food Allergy Included in the Study

	Parents/Guardians of Patients <13 y (n=162)	Patients ≥13 y (n=31)	All (N=193)	*P* Value
Sex (female/male)				
Patients	67/95	11/20	78/115	.54
Parents/guardians	122/40	–	–	–
Age median (IQR)				
Patients	7.5 (5)	14 (3)	8 (5.5)	–
Parents/guardians	42 (6)	–	–	–
Food allergy				
Peanut and tree nuts	75 (46.3%)	15 (48.4%)	90 (46.6%)	.83
Egg	62 (38.3%)	9 (29%)	71 (36.8%)	.33
Cow's milk	53 (32.7%)	5 (16.1%)	58 (30.1%)	.06
Fruit	31 (19.1%)	8 (25.8%)	39 (20.2%)	.4
Finned fish	28 (17.3%)	7 (22.6%)	35 (18.1%)	.48
Legumes	12 (7.4%)	0	12 (6.2%)	.22
Shellfish	9 (5.6%)	1 (3.2%)	10 (5.2%)	.6
Other	4 (2.5%)	2 (6.5%)	6 (3.1%)	.25
Time since onset				
<1 year	19 (11.7%)	1 (3.2%)	20 (10.4%)	.21
1-5 years	47 (29%)	5 (16.1%)	52 (26.9%)	.14
>5 years	96 (59.3%)	25 (80.6%)	121 (62.7%)	.02
History of anaphylaxis	100 (61.7%)	22 (71%)	122 (63.2%)	.33
Adverse reactions in the last year	83 (51.2%)	15 (48.4%)	98 (50.8%)	.77
Associated allergic diseases	114 (70.4%)	27 (87.1%)	141 (73.1%)	.05
Asthma	80 (49.4%)	24 (77.4%)	105 (53.9%)	.004
Rhinoconjunctivitis	52 (32.1%)	18 (58.1%)	70 (36.3%)	.006
Atopic dermatitis	44 (27.2%)	9 (29%)	53 (27.5%)	.83

included 122 women and 40 men, with a median age of 42 (6) years. The population comprised 95 boys and 67 girls, with a median age of 7.5 (5) years. Nuts were the most common trigger of food allergy, and 70% had other allergic diseases (Table 1).

The guardians of all 162 children had an internet connection. Most accessed the internet from their homes (84%). A total of 137 guardians (84.6%) had a smartphone, and 122 (75.3%) owned a personal computer. Instant messaging (eg, WhatsApp) was used by 124 children (76.5%) (Table 2).

The guardians of 109 patients (67.3%) used social media (Table 2). Of these, 79 (72.5%) accessed the networks every day, while 26 (23.9%) did so at least once a week and 4 (3.7%) less frequently. The most visited sites were Facebook (52.5%) and YouTube (42%) (Figure, A).

However, only 33 (30.3%) of the users of social media said that they used them for food allergy–related purposes. The most frequently used site was Facebook (78.8%), well ahead of YouTube (27.3%) and Twitter (9.1%) (Figure, B).

The most popular food allergy–related use of social media was for accessing food safety information (78.8%). Patient

Table 2. Internet-related Habits by Patients With Food Allergy and Their Guardians

	Parents/Guardians of Patients <13 y (n=162)	Patients ≥13 y (n=31)	All (N=193)	*P* Value
Internet connection				
Home	136 (84%)	28 (90.3%)	164 (85%)	.363
Mobile phone	122 (75.3%)	22 (71%)	144 (74.6%)	.611
Devices with Internet connection				
Personal computer	122 (75.3%)	13 (41.9%)	135 (69.9%)	<.0001
Smartphone	137 (84.6%)	29 (93.5%)	166 (86%)	.262
Tablet	87 (53.7%)	12 (38.7%)	99 (51.3%)	.126
Social media users	109 (67.3%)	29 (93.5%)	138 (71.5%)	.003
Food allergy-related	33 (30.3%)	2 (6.9%)	35 (25.4%)	.01
Instant messaging (WhatsApp)	124 (76.5%)	28 (90.3%)	152 (58.8%)	.09

associations were the sites most frequently visited by guardians of food-allergic children (48.5%) (Figure, C).

We assessed explanatory variables to understand why social media users did or did not adopt them for food allergy–related commitments. Only the fact that the patient was allergic to cow's milk and/or egg was significant, with a cOR of 3.27 (95%CI, 1.21-8.85). This association was verified as independent from other allergic diseases, the number of food groups the patient was allergic to, history of anaphylaxis, time from the diagnosis, and parental age, with a resulting aOR of 3.25 (95%CI, 1.17-9.08) (Table 3).

Teenagers Rarely Use Social Media to Obtain Information on Food Allergy

Thirty-one patients completed the survey. The group included 20 boys and 11 girls, with a median age of 14 (3) years. Other allergic diseases were recorded in 87%. Nuts were the most common trigger of food allergy (Table 1).

All of these patients connected regularly to the internet. Most connected from their homes (90.3%). Personal computers were used by only 41.9%, significantly less than adults. Twenty-eight (90.3%) were instant messaging users (Table 2).

Twenty-nine teenagers (93.5%) were social media users (Table 2). When asked how often they accessed the networks, 23 (79.3%) reported daily access, while 6 (20.7%) reported at least once-weekly access. The most popular networks were YouTube (80.6% vs 62.4% adults, *P*=.02), Instagram (61.3% vs 25.7% adults, *P*<.0001), and Snapchat (22.6% vs 1.8% adults, *P*<.0001). Facebook (16.1%) was used significantly less frequently by teenagers than adults (52.5%) (*P*<.0001) (Figure 1).

Only 2 patients in this group (6.9%) used social media for food allergy–related purposes. The first was a 14-year-old shellfish-allergic boy with no history of anaphylaxis. The second was a 16-year-old boy with a history of anaphylaxis due to hen's egg. Both had been diagnosed over 5 years previously. Data were not further analyzed owing to the small sample.

Table 3. Predictors of the Use of Social Media for Food Allergy Among Guardians of Food-Allergic Children Who Connected to Social Networks

	Use of Social Media for Food Allergy		cOR (95%CI)	aOR (95%CI)
	Yes (n=33)	No (n=76)		
Allergic to ≥3 food groups	6 (18.2%)	8 (10.5%)	1.89 (0.59-5.96)	1.57 (0.45-5.43)
Cow's milk and/or egg allergy	27 (81.8%)	44 (57.9%)	3.27 (1.21-8.85)	3.25 (1.17-9.08)
Anaphylaxis	20 (60.6%)	42 (55.3%)	1.25 (0.54-2.86)	1.29 (0.54-3.16)
Diagnosis ≥5 years	18 (54.5%)	42 (53.9%)	1.02 (0.45-2.33)	0.93 (0.34-2.52)
Associated allergic diseases	21 (63.6%)	53 (69.7%)	0.76 (0.32-1.79)	0.77 (0.29-2.07)
Guardian ≥45 years	7 (21.2%)	14 (18.4%)	1.19 (0.43-3.29)	1.39 (0.44-4.40)

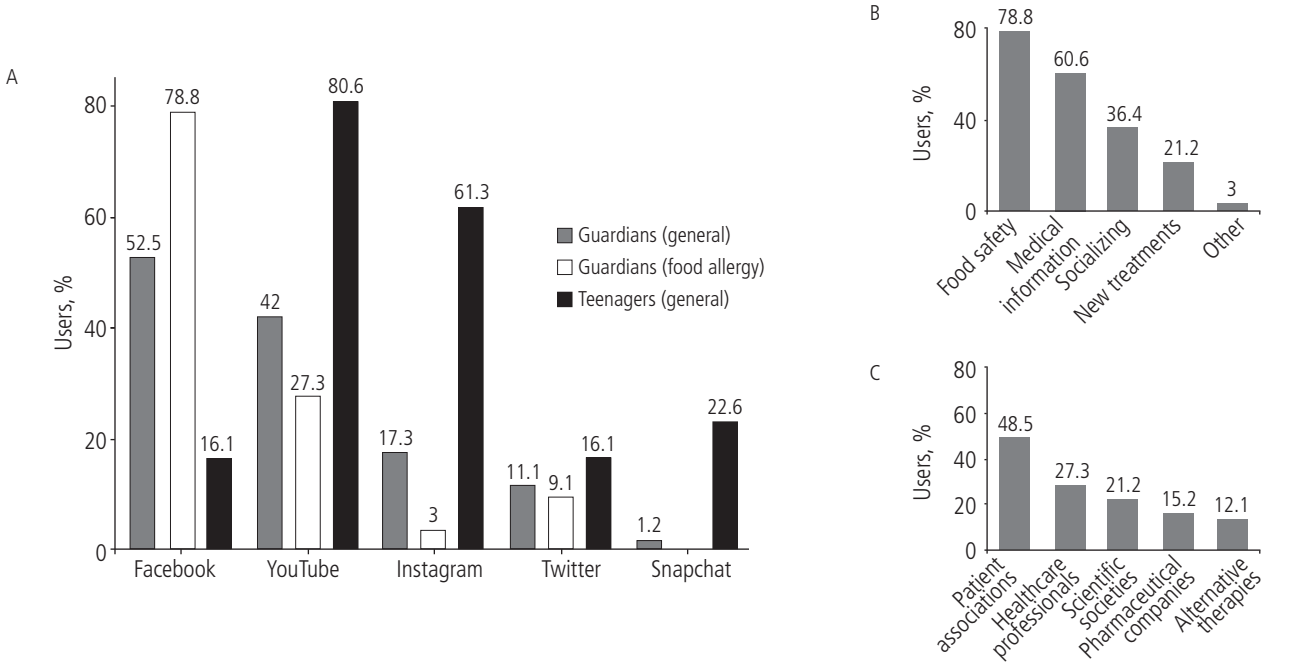

Figure. Use of social media by food-allergic patients or their guardians. A, Social networks used by guardians (general and food allergy–related purposes) and teenagers (general only). B, Food allergy-related uses of social media. C, Types of profiles followed for food allergy purposes.

The Impact of Social Media Use for Allergy Remains to Be Established

The survey included several questions aimed at evaluating the outcomes of the use of social media. It included subjective metrics (opinion on utility of social media for food allergy, knowledge of food allergy, and knowledge of the general population about food allergy) and objective metrics (accidental exposure to an offending food in the previous year, knowledge of scientific and alternative therapies).

All patients who used social media (guardians and teenagers) were asked for their opinion on the utility of social media as a tool for managing food allergy; the resulting median VAS score was 6 (3.25). Nevertheless, this score was higher for those who already used social media for food allergy–related purposes (median, 7 [2]) than for those who did not (median, 5 [4]) (P<.0001).

Similarly, patients were asked to score their own knowledge on food allergy and that of the general population. There were no significant differences in self-reported knowledge between those who used social media for food allergy (median, 8 [1]) and those who did not (median, 8 [2]) (P=.37). However, participants who used social media for food allergy scored the knowledge of the general population lower (median 4 [3]) than those who did not (median, 5 [2]) (P=.03).

Another approach used to evaluate the utility of social media was asking whether the patients had had a food-triggered allergic reaction during the previous year. Only 120 patients who had been diagnosed for more than 1 year were included in this analysis. Overall, 61 children (50.8%) had at least 1 reaction: 12 of those who had a reaction during the previous year used social media for food allergy (38.7%), while 49 (55.1%) used social media for other purposes. However, this difference was not significant (P=.12).

Finally, the participants were asked to give their opinion on 10 allergy-related, evidence-based, and alternative therapies using a VAS (1-5, or unknown). Overall, medical therapies scored higher than alternative therapies (4 vs 2; P<.0001). However, as shown in Table 4, there were no significant differences between patients who used social media for food allergy and other social media users regarding either knowledge of therapies or their opinion on others' knowledge of therapy.

Discussion

Our cross-sectional study on the social media habits of food-allergic patients and their families included almost 200 patients attended in the pediatric allergy unit of a tertiary hospital in Madrid, Spain. We obtained detailed information about the way patients or their guardians use social media. Over two-thirds accessed the networks, most of them daily. However, only 25% of social media users used them to gather information related to the disease.

Internet in general and social media in particular have become an important source of health information. A systematic

Table 4. Opinion of Social Media Users on the Utility of Scientific and Alternative Therapies

		All Social Media Users (N=138)	Use of Social Media for Food Allergy		*P* Value
			Yes (n=35)	No (n=103)	
Oral immunotherapy	Unknown, No. (%)	42 (30.4%)	10 (28.6%)	32 (31.1%)	.78
	Score[a]	5 (1)	4 (1)	5 (1)	.32
Epinephrine	Unknown	34 (24.6%)	9 (25.7%)	25 (24.3%)	.86
	Score	5 (2)	5 (2)	5 (1.25)	.79
Allergen immunotherapy	Unknown	60 (43.5%)	19 (54.3%)	41 (39.8%)	.14
	Score	4 (2)	3.5 (1.75)	4 (2)	.33
Inhaled corticosteroids	Unknown	38 (27.5%)	10 (28.6%)	28 (27.2%)	.87
	Score	4 (2)	4 (2)	4 (2)	1
Acupuncture	Unknown	88 (63.8%)	11 (31.4%)	39 (37.9%)	.49
	Score	2 (3)	3 (3)	2 (3)	.85
Bach flower remedies	Unknown	107 (77.5%)	24 (68.6%)	83 (80.6%)	.14
	Score	1 (2)	1 (2)	1 (2)	.91
Homeopathy	Unknown	71 (51.4%)	17 (48.6%)	54 (52.4%)	.69
	Score	2 (2)	2 (3)	2 (2)	.88
Naturopathy	Unknown	95 (68.8%)	25 (71.4%)	70 (68%)	.7
	Score	2 (2)	2 (3)	2 (2)	.53
Osteopathy	Unknown	37 (26.8%)	25 (71.4%)	76 (73.8%)	.79
	Score	3 (3)	2 (3)	3 (3)	.58
Reiki	Unknown	99 (71.7%)	22 (62.9%)	77 (74.8%)	.18
	Score	1 (2)	1 (2)	1 (2)	.93
Scientific therapies	Score	4 (1.75)	4 (2)	4 (1.5)	.57
Alternative therapies	Score	2 (2)	2 (2.4)	2 (2)	.88

[a]Median (IQR).

review reported that most pregnant women use internet as a source of information [16], while a survey found that 44.4% of patients with melanoma or psoriasis searched internet for information on their disease [6]. The utility of social media has been documented in medical disciplines such as oncology [17], psychiatry [7], and allergy [1]. Positive outcomes have been obtained using social media and internet for improvement of education on cystic fibrosis [18], asthma [19], and other chronic diseases [20,21]. Health-related uses of social media are not limited to patient education, but also cover research [22], thus increasing the impact of the scientific literature [23] and other sources of information [10].

The results of our study are difficult to compare because of methodological variability. In 2010, a telephone survey conducted in the USA, found that 15% of social media users (46% of American adults), had obtained health information from social websites [24]. In a European Union–wide survey conducted by the European Commission in 2014, 59% of the respondents had used internet to search for health-related information. However, only 17% tried to find information on a specific disease in social media [25]. In another survey conducted in 2015 by the Spanish Government, 60.5% of adults in Spain reported using internet for health-related purposes. While 59.3% of these respondents used social media, only 37.6% of them did so to search for health-related information [26]. In our study, the number of social media users is higher than the Spanish average, probably owing to their lower age. However, the number of patients using social networks to find information on their disease remains relatively low. This is remarkable, since a disease that limits quality of life, such as food allergy, does not seem to drive patients to search for relevant information on their disease. Our result falls somewhere between the 63.5% of Spanish patients with melanoma or psoriasis who used internet social networks to gather health-related information [6] and the 19.6% of patients with type 1 diabetes who had health-related contacts in their social profiles [5].

The use of social media by food-allergic patients does not seem to be hampered by technological limitations. Internet access, the availability of devices with an internet connection, and the use of instant messaging are well above the European and Spanish average [2,27]. This seems consistent with the differences in the use of social media between generations, ie, it is more frequent among younger generations [2].

Similarly, availability of information should not be a limiting factor. In the last few years, the number of English-speaking allergists on Twitter has grown (470% between 2011 and 2012) [1], and their activity has been documented during congresses in the USA [28] and Spain [29]. However, in our study, Twitter was only the third source of information for guardians of food-allergic children, far behind Facebook and YouTube. The reason why most patients do not use social media may be because the networks they use are not the same as those are being used by healthcare professionals to disseminate information, or because they are getting their internet information from other sources, as has been documented in asthma [15] and dermatological diseases [6]. Information on other platforms is lacking [15]. Furthermore, language might represent a barrier in the case of Spanish-speaking patients. There is no documentation on the amount of information about food allergy available in Spanish.

Another reason for not using social media seems to be the perception of poor reliability of these networks. Only 14.7% of Spaniards considered social media a trustworthy source for health-related information [26]. This low opinion has been documented in other studies in adolescents and young adults [30] and patients with type 1 diabetes [5]. The reliability of social media remains controversial, and there are no standardized methods to measure the quality of available information [31]. In the particular case of allergy and immunology, the reliability of videos posted on YouTube has been found to be low for asthma, rhinitis, and immunodeficiencies [10]. Providing contrasted information backed by scientific societies and health professionals might improve the perception of social media by the general public and increase their use [5].

The main utility of social media for food-allergic patients and their families was gathering information (safety updates for food products and additional medical advice). Patients may feel that they obtain enough information from their physicians, thus making additional sources unnecessary. This possibility is supported by the fact that patients score themselves 8 out of 10 for their knowledge of food allergy. However, this subjective measure might not be realistic, since a large number of patients did not know about important evidence-based therapies, such as epinephrine or oral immunotherapy.

The only independent factor that explained which guardians of food-allergic children used social media for food allergy–related information was allergy to cow's milk and/or egg. This is consistent with other results of the survey, such as the very frequent use of social media to obtain food safety information. In addition, profiles from patient associations, which usually release such data, are the most frequently followed. Cow's milk and egg allergy are the main triggers of anaphylaxis in children from our area [32], and being allergic to them would be perceived as sufficiently important to move guardians to obtain as much information as possible from any source.

The case of adolescents is noteworthy. On the one hand, they more frequently used social media than their parents or guardians, as described elsewhere [2,25,26,30]. On the other hand, teenagers are at a higher risk of severe anaphylaxis [4], yet fewer than 7% of the respondents aged over 13 years used social media for food allergy–related purposes. Overconfidence and other personality traits are well known characteristics of adolescents, leading them to act differently from adults regarding their food allergy [33]. The fact that their social media habits are different from those of adults (more smartphones and instant messaging, different networks), as described previously [30], might also account for their underuse of social media for food allergy.

In spite of our efforts, we were unable to measure the impact of social media use on food allergy. Using social media did not show any effect on the objective parameters evaluated, which were the number of reactions during the previous year or the knowledge and perception of various evidence-based and alternative therapies. As for subjective parameters, social media did not affect self-scoring of knowledge about

food allergy. However, patients who used social media to obtain information on food allergy had a worse opinion of the knowledge of the disease among the general population, which might be influenced by their experiences with social media websites. In our opinion, these findings should not be interpreted as a lack of effect of the use of social media on food allergy, but rather as evidence that our approach was not sufficiently valid to measure it. Nevertheless, patients who used social media to obtain information on food allergy scored social media as more useful than those who did not (7 vs 5). This finding suggests that the benefits of social media reported for other diseases might be applicable in food allergy.

The most important aspect of the present study is that it is the first attempt to understand how social media may or may not influence the daily lives of patients with food allergy. Our cross-sectional design provided insight into the way children, adults, and teenagers use new technologies and how these technologies might impact management of the disease.

Our study is subject to a series of limitations. First, the cross-sectional design means that only associations and not causality can be established. The study was performed with data collected at a tertiary hospital pediatric allergy unit, thus reducing its external validity. Second, as the number of teenagers included in the study was small, the information derived from this subgroup is limited. Lastly, the age limit for completion of the survey was set at 13 years. Some patients may access social media before age 13 years, and we did not obtain information on that subgroup.

In conclusion, most patients and guardians of patients with food allergy use social media often. However, only a small number access them for food allergy–related purposes. The patients who use social media often are those who are allergic to the most ubiquitous allergens and therefore find social media especially useful. Although we have reasons to believe that social media may be a useful tool for the management of food allergy, we have not been able to confirm our hypothesis. Further investigations should be carried out to assess the quality of allergy-related information in social media, since their reliability is questionable.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

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