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Healthcare Professional Survey on Complementary Feeding and Allergy Prevention in High- Versus Low-Risk Infants: An EAACI Task Force Report

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ABSTRACT

Complementary feeding (CF) influences infants' long-term dietary preferences, growth, and food allergy (FA) risk. However, guidance given to families and the implementation of FA prevention guidelines by healthcare professionals (HCPs) remain unclear. This study explored HCPs' perspectives and practices regarding CF strategies in the context of FA prevention across different regions and professional backgrounds. An online survey conducted by an EAACI task force between December 2023 and May 2024 assessed CF timing, allergenic food introduction, nutrient supplementation, and FA preventive measures. 550 HCPs (pediatricians, allergists, dietitians), 68% from Europe, participated. HCPs recommended CF initiation at a median of six months for breastfed infants and five months for formula-fed and FA high-risk infants. Atopic dermatitis (94%) and family history of allergies (87%) were the most recognized FA risk factors. Vitamin D (49%), probiotics (28%), and omega-3 fatty acids (18%) were commonly recommended supplements. Regional, professional, and educational influences differences emerged, with Northern European HCPs favoring earlier CF and allergen introduction, often without structured guidance. Southern European HCPs preferred a structured sequence and later CF initiation. A flexible, evidence-based framework is needed to guide FA prevention while accommodating cultural and geographical differences.

1 | Introduction

The approach to complementary feeding (CF) is pivotal in shaping infants' growth, body composition, longer-term dietary preferences, metabolic programming (i.e., obesity and diabetes), and preventing food allergies [1]. During the CF stage, food intake

provides essential nutrients and facilitates the development of a diverse gut microbiome, which plays a pivotal role in the regulation of immune, metabolic, and neurological function [2].

The World Health Organization (WHO) recommends introducing complementary foods at six months of age (180 days)

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whilst continuing to breastfeed to meet developmental and nutritional needs [3]. The European Food Safety Authority (EFSA) acknowledges that some infants may be ready for CF between 3 and 4 months but generally supports introduction around 6 months [4, 5]. Similarly, the European Society for Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and the Federation of International Societies for Pediatric Gastroenterology, Hepatology and Nutrition (FISPGHAN)/WHO Europe emphasize starting solids between 4 and 6 months when developmentally appropriate, while considering nutritional adequacy and allergy prevention [6, 7].

However, CF advice given to families is often influenced by the infant's allergy risk [8] and can also differ across geographical regions where allergy prevalence varies [9]. The European Academy of Allergy and Clinical Immunology (EAACI) guideline recommends not delaying allergenic foods beyond 6 months and supports early introduction of peanut and egg (from 4 months) in regions where these allergies are prevalent [10]. In North America, the AAAAI/ACAAI/CSACI consensus statement defines high-risk infants as those with atopic dermatitis and/or egg allergy and recommends early allergen introduction [11]. The British Society for Allergy & Clinical Immunology (BSACI) also includes infants with food allergy symptoms in the high-risk group [12], while the Australasian Society of Clinical Immunology and Allergy (ASCI) promotes early introduction of allergenic foods for all infants [13, 14].

Not delaying allergenic foods beyond 6 months and earlier introduction (from 4 months of age) of peanut and egg is recommended by most food allergy prevention guidelines in countries where these allergies are prevalent [10, 15]. The early introduction of complementary foods during a critical window in infancy may support the development of oral tolerance to dietary antigens, potentially reducing the risk of allergic diseases later in life [16].

While some evidence suggests that introducing complementary foods before 4 months of age may be associated with an increased risk of atopic dermatitis, findings across studies highlight that solid food introduction should be initiated between 6 and 11 months [17], while early allergenic food introduction, between 4 and 6 months of age, may act as a preventive strategy against allergic disease [18]. In resource-constrained settings, guidelines stress the need to balance allergy prevention with safe and accessible complementary feeding practices [19].

Healthcare professionals (HCPs) play a critical role in advising on CF practices for children at “high risk” of developing FA, but defining who is at “high risk” is still unclear. The American Academy of Allergy, Asthma, and Immunology (AAAAI), the American College of Allergy, Asthma, and Immunology (ACAAI), and the Canadian Society for Allergy and Clinical Immunology (CSACI) consensus statement defines a high-risk infant as one with atopic dermatitis (AD) and/or an egg allergy [11], while the British Society for Allergy & Clinical Immunology (BSACI) also considers infants with food allergy symptoms [12] as “high risk”. Despite these

differences, these guidelines concur with the EAACI guidelines [10] and the Australian Society of Allergy and Clinical Immunology (ASCI) [13] that all infants are potentially at risk of developing food allergies.

Beyond the timing of CF introduction, HCPs guide families on the sequence of food introduction—including allergenic and non-allergenic foods—and the interval between introducing new foods, while considering nutritional adequacy and promoting normal oral motor skill development [20]. Their primary aim is to promote oral tolerance, minimize the risk of food allergy development, and support overall immune and metabolic health [21]. Existing studies based on HCPs' feedback highlight that CF recommendations are influenced by the cultural dietary practices and locally available foods, with traditional foods often serving as an entry point to starting CF and then increasing dietary diversity [22]. As a result, these perspectives are often region-specific, involve small sample sizes, and highlight the need for more comprehensive research.

HCPs may also recommend nutritional supplements, such as probiotics, prebiotics, omega-3 fatty acids, and vitamins, particularly in high-risk children for the prevention of food allergy, although their role in allergy prevention is still questionable [23].

Also, emollient use from birth and during CF has been suggested as a food allergy prevention strategy, based on the concept that early skin barrier restoration may help prevent food allergies, particularly in infants with AD [24, 25]. However, results from prophylactic emollient therapy have been mixed, with some studies indicating slight benefits in preventing food allergy sensitization [26].

Understanding how HCPs integrate these factors into their recommendations provides insight into global CF practices and informs future evidence-based guidelines. This study represents an effort by an EAACI task force “Weaning practices: a survey on the pediatrician's approaches” aimed to explore HCPs' perspectives, practices, and recommendations regarding CF strategies, examining their recommendations on the timing of CF introduction, the sequence of introducing food allergens, nutrient supplementation, and other preventive measures.

2 | Methods

2.1 | Participants

HCP were invited via 4 rounds of mass emails distributed by EAACI to all its members and by national societies of pediatricians, pediatric allergists, allergists, and dietitians to participate in this study from December 2023 to May 2024. The European countries were classified into Eastern and Southern Europe (South) and Western and Northern Europe (North), following the classification outlined by the United Nations geoscheme [27].

The questionnaire provided a detailed introduction regarding the scope of the study, and participants were asked to provide online informed consent, which released a personalized code to access

the survey. The study was approved by the EAACI Executive Committee and the International Hellenic University's Bioethics Committee (ref 110/2025–12/5/2025) and conducted in accordance with the code of Ethics of the World Medical Association Declaration of Helsinki.

2.2 | Questionnaire

A questionnaire was developed specifically for this study (Supporting Information Table A), with responses collected online via a custom-built web platform hosted by the International Hellenic University. This platform ensured secure on-premises data collection and analysis. Only HCPs that confirmed they provided guidance on complementary feeding and completed the entire questionnaire were included.

Anonymous demographic and professional information, including sex, age, profession, country of practice, years of practice within the specialty, and any additional education in allergy was gathered. It then delved into specific practices related to CF, such as the recommended age for introducing complementary foods to breastfed and formula-fed infants, as well as infants at increased risk for developing food allergies. Participants were asked to identify conditions they consider increase the risk of food allergies, such as AD, recurrent bronchiolitis, or a direct family history of allergies. The questionnaire further explored the measures taken to prevent food allergies in both low- and high-risk for food allergy children, including the recommended sequence of food introduction and the use of dietary supplements. Additionally, respondents were asked about the intervals they recommend for introducing both low- and high-allergenic foods tailored to the child's allergy risk profile.

The questionnaire was designed and then extensively edited by the research team, composed of multi-disciplinary HCPs ($n=28$) from the EAACI task force. The HCPs included dietitians, psychologists, allergists, pediatricians, and immunologists. Following approval from the task force members, it was translated into nine different languages by local researchers, with subsequent back-translation to English. ChatGPT was used to assist with translation, and task force members revised the content to ensure accuracy and clarity.

It was piloted with a small group of HCPs ($n=32$) to ensure that the questions were clear and the responses were appropriate. The average time required for completion, based on pilot data, was 10 min. The complete questionnaire is available in the [Appendix](#).

2.3 | Statistical Analysis

Descriptive statistics were used to summarize the data. Categorical variables were presented as frequencies and percentages. Continuous variables were reported as medians with interquartile ranges. Subgroup analyses were conducted using Chi-square or Fisher's exact tests, as appropriate, to explore potential patterns in recommendations across demographic and professional characteristics (gender, age, profession, additional education in allergy, continent). The Wilcoxon rank-sum test

was utilized to compare continuous variables. For each food, the median month of introduction was calculated and compared between allergic and non-allergic children. For foods that showed a significant difference in the month of introduction between allergic and non-allergic children, subgroup analyses were performed (gender, age, profession, additional education in allergy, continent). A p -value of less than 0.05 was considered statistically significant. The R software was used for all the analyses (<https://www.R-project.org/>).

3 | Results

3.1 | Participants' Characteristics

The study included 550 HCPs, of whom 409 (74%) were female and 141 (26%) male. Pediatricians comprised the largest professional group (46%, $n=252$), followed by allergists (37%, $n=205$), dietitians (11%, $n=61$), nurses (1%, $n=5$), and others (5%, $n=27$). Participants ranged in age from 24 to 81 years (mean: 45 years), with an average of 16 years of professional experience (range: 1–50 years). Among the respondents, 381 (69%) had additional education in allergy (Table 1).

3.2 | Geographic Distribution

Most respondents were from Europe (67%, $n=371$), subdivided into Western Europe (20%, $n=111$) and Southern Europe (47%, $n=260$). The Americas represented 15% of the sample (4% from Northern America and 11% from Central/South America). Asia contributed 14% of the sample, while Africa and Oceania accounted for 2% and 1.5% respectively (Table 1).

3.3 | Complementary Feeding Practices

This survey found that HCPs recommended introducing complementary foods at a median age of 6 months [IQR 5–6] for breastfed infants, 5 months [IQR 4–6] for formula-fed or mixed-fed infants, and 5 months [IQR 4–6] for infants at high risk of developing food allergies (Table 2A).

3.4 | Risk Factors for Food Allergies

Most respondents identified AD (94%) and a family history of allergies (87%) as risk factors for developing food allergies. Recurrent bronchiolitis or wheezing was listed by 37% as a risk factor (Table 2A).

3.5 | Nutritional Supplement Recommendations

For FA high-risk children, vitamin D was the most recommended nutritional supplement (49.1%), followed by probiotics (27.8%), omega-3 (18.2%), and prebiotics (16.9%). Other nutritional supplements like synbiotics (8.9%), iron (8%), multivitamins (5.1%), vitamin A (3.6%), and vitamin C (2.9%) had lower recommendation rates. Around 37% of professionals suggest not using any nutritional supplement for FA high-risk children.

TABLE 1 | Descriptive characteristics of health care professionals and their approaches on complementary feeding strategies.

	N (%)
Sex	
Male	141 (26)
Female	409 (74)
Profession	
Pediatrician	252 (46)
Allergist	205 (37)
Dietitian	61 (11)
Nurse	5 (1)
Others	27 (5)
Age (mean $\pm$ SD, range)	45 $\pm$ 12 (24–81)
Years of practice within your specialty (mean $\pm$ SD, range)	16 $\pm$ 11 (1–50)
Do you have additional education in allergy?	
No	169 (31)
Yes (more options)	381 (69)
Online course	68 (12)
University course	129 (23)
MSc	78 (14)
PhD	100 (18)
Other	97 (18)
Continent	
Europe	371 (67)
Southern Europe	260 (47)
Northern Europe	111 (20)
Americas	84 (15)
Central America/South America	60 (11)
Northern America	24 (4)
Asia	75 (14)
Africa	9 (2)
Oceania	8 (1.5)
Missing	3 (0.5)
At what age do you advise the introduction of complementary food for an infant? (median, IQR)	
Breast-fed infant	6 [5–6]
Formula-fed/mixed feed infant	5 [4–6]
At increased risk to develop food allergy	5 [4–6]
When do you consider an infant at “increased risk to develop food allergy”? (multiple choices possible)	
Coexisting AD	515 (94)
Recurrent Bronchiolitis/wheeze	201 (37)
Direct family history (i.e., parents, siblings) of any allergy, atopic dermatitis, asthma or rhinoconjunctivitis	476 (87)

(Continues)

TABLE 1 | (Continued)

	N (%)
Other	25 (5)
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?	
No	422 (77)
Yes	128 (23)
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?	
No	226 (41)
Yes	324 (59)
Do you advise parents to introduce foods during complementary feeding in a specific order, when the child is not allergic or is at low risk for food allergy?	
No	412 (75)
Yes	138 (25)
Do you advise parents to introduce foods during complementary feeding in a specific order, when the child is at high risk for food allergy?	
No	326 (59)
Yes	224 (41)
What is the interval for introducing low-allergenic foods in non-allergic children?	
1 day	226 (41)
1–3 days	255 (46)
> 3 days	69 (13)
What is the interval for introducing low-allergenic foods in high risk for food allergy children?	
1 day	140 (25.5)
1–3 days	255 (46.5)
> 3 days	155 (28)
What is the interval for introducing high-allergenic foods in non-allergic children?	
1 day	153 (28)
1–3 days	261 (47)
> 3 days	136 (25)
What is the interval for introducing high-allergenic foods in high risk for food allergy children?	
1 day	57 (10)
1–3 days	186 (34)
> 3 days	307 (56)

3.6 | Gender, Training, and Professional Background

There was broad agreement between female and male professionals regarding complementary food introduction. However, female respondents more often identified recurrent bronchiolitis as a significant risk factor and suggested a specific food introduction sequence ($p=0.02$, Table 2A). Professionals with additional education in allergy, as in detail specified in Table 1, were more proactive in recommending preventive measures for low-risk (26% vs. 16%, $p=0.02$) and high-risk children (61% vs. 54%, $p=0.13$) than those without additional allergy training.

They also more frequently recognized recurrent bronchiolitis as a risk factor (44% vs. 33%, $p=0.02$) (Table 2B).

3.7 | Regional Differences

In Northern Europe (including West and North Europe), HCPs suggested introducing complementary foods overall at an earlier age, with a median age of 4 months for breastfed infants compared to 6 months in Southern Europe (including East and South Europe) (Table 2E). Additionally, preventive measures for low-risk children were more frequently implemented in Northern

TABLE 2 | Comparative analysis of complementary feeding strategies by A. Sex; B. Additional Education in Allergy; C. Profession; D. Age; E. Continent.

	A. Sex			B. Additional education in allergy		
	General sample	Male	Female	p	Yes	No
<i>At what age do you advise the introduction of complementary food for an infant?</i>						
Breast-fed infant	6 [5–6]	6 [4–6]	6 [5–6]	0.88	6 [4–6]	6 [5–6]
Formula-fed/mixed feed infant	5 [4–6]	5 [4–6]	5 [4–6]	0.40	5 [4–6]	5 [5–6]
At increased risk to develop food allergy	5 [4–6]	5 [4–6]	5 [4–6]	0.66	5 [4–6]	6 [5–6]
<i>When do you consider an infant at “increased risk to develop food allergy”? (multiple choices possible)</i>						
Coexisting AD	515 (94)	128 (91)	387 (95)	0.16	363 (95)	152 (90)
Recurrent Bronchiolitis/wheeze	201 (37)	38 (27)	163 (40)	0.008	127 (33)	74 (44)
Direct family history (parents, siblings) of any allergy, atopic dermatitis, asthma or rhinoconjunctivitis	476 (87)	117 (83)	359 (88)	0.19	323 (85)	153 (90)
Other	25 (5)	5 (4)	20 (5)	0.67	20 (5)	5 (3)
<i>Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?</i>						
No	422 (77)	105 (74)	317 (78)	0.53	281 (74)	141 (83)
Yes	128 (23)	36 (26)	92 (22)		100 (26)	28 (16)
<i>Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?</i>						
No	226 (41)	61 (43)	165 (40)	0.61	148 (39)	78 (46)
Yes	324 (59)	80 (57)	244 (60)		233 (61)	91 (54)
<i>Do you advise parents to introduce foods during complementary feeding in a specific order; when the child is not allergic or is at low risk for food allergy?</i>						
No	412 (75)	112 (79)	300 (73)	0.19	284 (75)	128 (76)
Yes	138 (25)	29 (21)	109 (27)		97 (25)	41 (24)
<i>Do you advise parents to introduce foods during complementary feeding in a specific order; when the child is at high risk for food allergy?</i>						
No	326 (59)	84 (60)	242 (59)	0.9	215 (56)	111 (66)
Yes	224 (41)	57 (40)	167 (41)		166 (44)	58 (34)
<i>What is the interval for introducing low-allergenic foods in non-allergic children?</i>						
1 day	226 (41)	60 (43)	166 (41)	0.19	163 (43)	63 (37)
1–3 days	255 (46)	58 (41)	197 (48)		169 (44)	86 (51)
> 3 days	69 (13)	23 (16)	46 (11)		49 (13)	20 (12)

(Continues)

TABLE 2 | (Continued)

	A. Sex			B. Additional education in allergy						
	General sample	Male	Female	p	Yes	No	p			
What is the interval for introducing low-allergenic foods in high risk for food allergy children?										
1 day	140 (25.5)	38 (27)	102 (25)	0.23	99 (26)	41 (24)	0.45			
1–3 days	255 (46.5)	57 (40)	198 (48)		170 (45)	85 (50)				
> 3 days	155 (28)	46 (33)	109 (27)		112 (29)	43 (25)				
What is the interval for introducing high-allergenic foods in non-allergic children?										
1 day	153 (28)	46 (33)	107 (26)	0.02	109 (29)	44 (26)	0.34			
1–3 days	261 (47)	53 (37)	208 (51)		173 (45)	88 (52)				
> 3 days	136 (25)	42 (30)	94 (23)		99 (26)	37 (22)				
C. Profession										
D. Age										
					<35 N=118	35–44 N=168	45–54 N=122	55+ N=142		
Total sample										
Total sample										
Pediatrician										
Dietician										
Allergist										
Other										
p										
At what age do you advise the introduction of complementary food for an infant?										
Breast-fed infant	6 [5–6]	6 [5–6]	6 [4–6]	6 [5–6]	6 [5–6]	6 [5–6]	5 [4–6]	5 [4–6]	<0.001	
Formula-fed/mixed feed infant	5 [4–6]	5 [4–6]	6 [4–6]	5 [4–6]	6 [5–6]	5 [4–6]	5 [4–6]	5 [4–6]	<0.001	
At increased risk to develop food allergy	5 [4–6]	5 [4–6]	5 [4–6]	6 [5–6]	6 [5–6]	5 [4–6]	4 [4–5]	5 [4–6]	<0.001	
When do you consider an infant at “increased risk to develop food allergy”? (multiple choices possible)										
Coexisting AD	515 (94)	239 (95)	57 (93)	194 (94)	25 (78)	110 (93)	158 (94)	112 (92)	135 (95)	0.74
Recurrent Bronchiolitis/wheeze	201 (37)	101 (40)	13 (21)	75 (37)	12 (38)	47 (40)	74 (44)	31 (25)	49 (34)	0.009
Direct family history (parents, siblings) of any allergy, atopic dermatitis, asthma or rhinoconjunctivitis	476 (87)	222 (88)	53 (87)	177 (86)	24 (75)	99 (84)	144 (86)	105 (86)	128 (90)	0.49
Other	25 (5)	9 (4)	6 (9)	9 (4)	1 (3)	4 (3)	4 (2)	11 (9)	6 (4)	0.05
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?										
No	422 (77)	200 (79)	42 (69)	155 (76)	25 (78)	97 (83)	139 (82)	86 (70)	100 (70)	0.01
Yes	128 (23)	52 (21)	19 (31)	50 (24)	7 (22)	20 (17)	30 (18)	36 (30)	42 (30)	

(Continues)

TABLE 2 | (Continued)

	C. Profession						D. Age				
	Total sample	Pediatrician	Dietician	Allergist	Other	p					
							<35	35–44	45–54	55+	
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?											
No	226 (41)	117 (46)	23 (38)	77 (38)	9 (28)	0.09	57 (49)	80 (47)	43 (35)	46 (32)	0.008
Yes	324 (59)	135 (54)	38 (62)	128 (62)	23 (72)		60 (51)	89 (53)	79 (65)	96 (68)	
Do you advise parents to introduce complementary feeding in a specific order, when the child is not allergic or is at low risk for food allergy?											
No	412 (75)	188 (75)	45 (74)	158 (77)	21 (66)	0.56	90 (77)	142 (84)	88 (72)	92 (65)	0.001
Yes	138 (25)	64 (25)	16 (26)	47 (23)	11 (34)		27 (23)	27 (16)	34 (28)	50 (35)	
Do you advise parents to introduce complementary feeding in a specific order, when the child is at high risk for food allergy?											
No	326 (59)	160 (63)	33 (54)	117 (57)	16 (50)	0.25	81 (69)	114 (67)	67 (55)	64 (45)	<0.00
Yes	224 (41)	92 (37)	28 (46)	88 (43)	16 (59)		36 (31)	55 (33)	55 (45)	78 (55)	
What is the interval for introducing low-allergenic foods in non-allergic children?											
1 day	226 (41)	94 (37)	37 (61)	83 (40)	12 (38)	0.008	49 (42)	64 (38)	62 (51)	51 (36)	<0.001
1–3 days	255 (46)	118 (47)	23 (38)	98 (48)	16 (50)		60 (51)	86 (51)	48 (39)	61 (43)	
> 3 days	69 (13)	40 (16)	1 (1)	4 (12)	4 (12)		8 (7)	19 (11)	12 (10)	30 (21)	
What is the interval for introducing low-allergenic foods in high risk for food allergy children?											
1 day	140 (25.5)	59 (23)	31 (51)	39 (19)	11 (34)	<0.001	32 (27)	38 (22)	38 (31)	32 (23)	
1–3 days	255 (46.5)	122 (48)	23 (38)	102 (50)	8 (25)		56 (48)	91 (54)	55 (45)	53 (37)	
> 3 days	155 (28)	71 (28)	7 (11)	64 (31)	13 (41)		29 (25)	40 (24)	29 (24)	57 (40)	
What is the interval for introducing high-allergenic foods in non-allergic children?											
1 day	153 (28)	67 (27)	25 (41)	50 (24)	11 (34)	0.002	23 (20)	47 (28)	45 (37)	38 (27)	0.002
1–3 days	261 (47)	118 (47)	32 (52)	103 (50)	8 (25)		65 (56)	88 (52)	54 (44)	54 (38)	
> 3 days	136 (25)	67 (26)	4 (7)	52 (25)	13 (41)		29 (25)	34 (820)	23 (19)	50 (35)	

(Continues)

TABLE 2 | (Continued)

	C. Profession						D. Age				
	Total sample	Pediatrician	Dietician	Allergist	Other	p	<35				
							N=118	N=168	N=122	55+ N=142	
What is the interval for introducing high-allergenic foods in high risk for food allergy children?											
1 day	57 (10)	21 (8)	12 (20)	18 (9)	6 (19)	0.22	10 (9)	18 (11)	15 (12)	14 (10)	0.01
1–3 days	186 (34)	89 (35)	26 (42)	63 (31)	8 (25)		40 (34)	68 (49)	47 (39)	31 (22)	
> 3 days	307 (56)	142 (56)	23 (38)	124 (60)	18 (56)		67 (57)	83 (49)	60 (49)	97 (68)	
E. Continent											
	Total sample	Africa	Asia	Oceania	Northern America	Central/ South America	Northern Europe	Southern Europe	p		
At what age do you advise the introduction of complementary food for an infant?											
Breast-fed infant	6 [5–6]	5 [4–6]	6 [4.5–6]	5.5 [5–6]	6 [5–6]	6 [5–6]	4 [4–6]	6 [5–6]	<0.001		
Formula-fed/mixed feed infant	5 [4–6]	4 [4–6]	5 [4–6]	5.5 [5–6]	6 [5–6]	6 [4–6]	4 [4–5.5]	5 [4–6]	<0.001		
At increased risk to develop food allergy	5 [4–6]	5 [4–9]	5 [4–6]	5.5 [5–6]	5 [4–6]	5 [4–6]	4 [4–4.5]	5 [4–6]	<0.001		
When do you consider an infant at “increased risk to develop food allergy”? (multiple choices possible)											
Coexisting AD	515 (94)	9 (100)	68 (91)	7 (88)	23 (96)	57 (95)	108 (97)	240 (92)	0.44		
Recurrent Bronchiolitis/wheeze	201 (37)	5 (56)	29 (39)	2 (25)	6 (25)	22 (37)	21 (19)	115 (44)	<0.001		
Direct family history (parents, siblings) of any allergy, atopic dermatitis, asthma or rhinoconjunctivitis	476 (87)	7 (78)	60 (80)	6 (75)	20 (83)	53 (88)	93 (84)	235 (90)	0.10		
Other	25 (5)	—	1 (1)	1 (12)	1 (4)	2 (3)	9 (8)	10 (4)	0.25		
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?											
No	422 (77)	5 (56)	59 (79)	5 (62)	17 (71)	37 (62)	81 (73)	215 (83)	0.009		
Yes	128 (23)	4 (44)	16 (21)	3 (38)	7 (29)	23 (38)	30 (27)	45 (17)			

(Continues)

TABLE 2 | (Continued)

	Total sample	E. Continent					p
		Africa	Asia	Oceania	Northern America	Central/ South America	
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?							
No	226 (41)	2 (22)	30 (40)	5 (62)	9 (38)	19 (32)	116 (45)
Yes	324 (59)	7 (78)	45 (60)	3 (38)	15 (62)	41 (68)	144 (55)
Do you advise parents to introduce complementary feeding in a specific order, when the child is not allergic or is at low risk for food allergy?							
No	412 (75)	8 (89)	50 (67)	7 (88)	20 (83)	37 (62)	197 (76)
Yes	138 (25)	1 (11)	25 (33)	1 (12)	4 (17)	23 (38)	63 (24)
Do you advise parents to introduce complementary feeding in a specific order, when the child is at high risk for food allergy?							
No	326 (59)	5 (56)	32 (43)	7 (88)	14 (58)	30 (50)	165 (63)
Yes	224 (41)	4 (44)	43 (57)	1 (12)	10 (42)	30 (50)	95 (37)
What is the interval for introducing low-allergenic foods in non-allergic children?							
1 day	226 (41)	4 (44)	27 (36)	4 (50)	11 (46)	14 (23)	91 (35)
1–3 days	255 (46)	3 (33)	38 (51)	3 (38)	11 (46)	33 (55)	137 (53)
> 3 days	69 (13)	2 (22)	10 (13)	1 (12)	2 (8)	13 (22)	32 (12)
What is the interval for introducing low-allergenic foods in high risk for food allergy children?							
1 day	140 (25.5)	1 (11)	15 (20)	2 (25)	11 (46)	7 (12)	49 (19)
1–3 days	255 (46.5)	2 (22)	27 (36)	5 (62)	9 (38)	29 (48)	142 (55)
> 3 days	155 (28)	6 (67)	33 (44)	1 (12)	4 (17)	24 (40)	69 (27)
What is the interval for introducing high-allergenic foods in non-allergic children?							
1 day	153 (28)	2 (22)	23 (31)	3 (38)	9 (38)	8 (13)	54 (21)
1–3 days	261 (47)	4 (44)	28 (37)	4 (40)	8 (33)	31 (52)	146 (56)
> 3 days	136 (25)	3 (33)	24 (32)	1 (12)	7 (29)	21 (35)	60 (23)
What is the interval for introducing high-allergenic foods in high risk for food allergy children?							
1 day	57 (10)	1 (11)	7 (9)	1 (12)	6 (25)	2 (3)	18 (7)
1–3 days	186 (34)	2 (22)	13 (17)	1 (12)	7 (29)	28 (47)	86 (33)
> 3 days	307 (56)	6 (67)	55 (73)	6 (75)	11 (46)	30 (50)	156 (60)

Europe (27%) than in Southern Europe (17%) (Table 2E). Conversely, professionals in Southern Europe were more likely to recommend a specific sequence for introducing complementary foods to both low- and high-risk infants (Table 2E).

3.8 | Food Introduction Intervals

For high-allergenic foods (including egg and peanut), one-to-three-day intervals were widely endorsed, with 47% of respondents recommending this interval for low-risk children and 56% for high-risk children (Table 3). One-to-three-day intervals were also recommended by 46% of HCP for low-allergenic foods, for both low- and high-risk children (Table 3).

3.9 | Age-Specific Patterns

HCPs older than 45 years of age introduced complementary food earlier, recommended preventive measures or detailed advice to parents regarding the order of food introduction, and favored longer intervals (> 3 days) for introducing high-allergenic foods in high-risk for food allergy children than younger HCPs (Table 2D).

3.10 | Median Age of Food Introduction

For low-risk children, complementary foods, including most food groups, were advised to be introduced around 6 months. Advice for high-risk children followed similar patterns, while earlier introduction was advised for cow's milk yogurt (7 vs. 8 months), peanuts (5 vs. 6 months), and nuts (6 vs. 8 months) (Table 5). Significant differences for specific foods by risk status, profession, and continent are detailed in the Supporting Information (Table B).

3.11 | Preventive Measures

Among HCPs, 23% ($n=128$) gave additional guidance to low-risk children, while 59% ($n=324$) did so for high-risk children. These measures included advising exclusive breastfeeding until 6 months (14% for low-risk and 33% for high-risk children) and recommending emollients as a skin barrier (13% for low-risk and 33% for high-risk children, Tables 3 and 4).

4 | Discussion

This international survey of HCPs explored current CF practices and preventive measures aimed at reducing the development of food allergies in diverse healthcare and cultural settings. Our findings highlight that HCPs' recommendations vary based on infant feeding risk for FA, whether they follow or diverge from the existing guidelines.

4.1 | Timing of Complementary Feeding

HCPs in our study recommended introducing complementary foods at a median age of 5 months for formula-fed, mixed-fed, and high-risk infants, and at 6 months for breastfed infants.

Our findings partly diverge from international recommendations, which generally support introducing complementary foods around 6 months, with some acknowledging readiness from 4 months [3–5]. No guideline explicitly differentiates the timing of CF by feeding method, and earlier recommendations for formula-fed infants may stem from a misconception that formula is a complementary food. The most recent WHO guidelines clarify that infant formula is not a complementary food, which may help reduce confusion in practice [28].

4.2 | Risk-Based Complementary Feeding Strategies

Defining high-risk infants remains challenging, as highlighted by differences among guidelines [10, 12]. In our survey, HCPs most often classified infants as high risk based on atopic dermatitis and family history, which only partially aligns with these definitions. While risk stratification has been emphasized historically, recent allergy prevention guidelines increasingly support early allergen introduction for all infants as a strategy to reduce FA incidence [10, 11, 14].

Survey data revealed differences in recommended timing of allergen introduction between risk groups. Among high-risk infants, peanuts were introduced at around five months, tree nuts at six months, and cow's milk yogurt at seven months. In contrast, low-risk infants were guided to introduce peanuts and tree nuts later, at approximately six and eight months, respectively. Early introduction of allergenic foods in high-risk infants aligns with growing evidence supporting early exposure as a means of building tolerance [29, 30].

4.3 | HCP Influences and Regional Differences in CF Practices

Our findings also indicate that HCPs' recommendations are influenced by professional training, gender, and age. Younger HCPs were less likely to provide detailed CF guidance or recommend longer food introduction intervals, possibly reflecting training received after studies advocating early allergen introduction [20, 31–32]. Those with advanced allergy training demonstrated greater readiness to implement early allergen introduction, consistent with educational initiatives shown to enhance practice [33]. These findings highlight challenges in achieving consistent guideline implementation across specialties and settings, emphasizing the need for policy-driven strategies, resource allocation, and integrated care models [34].

Regional differences further influenced CF recommendations. HCPs in Northern Europe introduced complementary foods earlier compared with those in Southern Europe. The Northern European approach, characterized by shorter intervals between new food introductions, may reflect cultural norms or guideline-driven practices [7], whereas Southern European HCPs adhered to more structured food introduction sequences and later initiation, reflecting traditional dietary patterns [35]. Emerging local evidence also shapes practice; for instance, the LEAP study in the United Kingdom demonstrated the efficacy of early peanut introduction in infants

TABLE 3 | Implementation of Additional Measures to Prevent Food Allergy in Infants and Young Children at Low Risk for Food Allergy by A. Sex; B. Additional Education in Allergy; C. Profession; D. Age; E. Continent.

	A. Sex		B. Additional education in allergy						
	Male	Female	p	Yes	No	p-value			
	General sample	N=141		N=409	N=381		N=169		
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?									
No	422								
Yes	128								
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	—	9 (6%)	13 (3%)	0.15	17 (5%)	5 (3%) >0.49			
Partially or extensively hydrolysed formula	22 (4%)	4 (3%)	7 (2%)	0.23	9 (2%)	2 (1%) 0.52			
Restricting consumption of potential food allergens during pregnancy or breastfeeding	11 (2%)	23 (16%)	47 (12%)	0.18	58 (15%)	12 (7%) 0.01			
Using emollients as skin barriers	70 (13%)	16 (11%)	27 (7%)	0.10	34 (9%)	9 (5%) 0.20			
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	43 (8%)	6 (4%)	19 (4%)	1	20 (5%)	5 (3%) 0.33			
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	25 (4.5%)	4 (3%)	8 (2%)	0.78	10 (3%)	2 (1%) 0.36			
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	12 (2%)	19 (13%)	58 (14%)	0.94	55 (14%)	22 (13%) 0.75			
Motivate exclusive breastfeeding until 6 months	77 (14%)	—	—	—	—	—			
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)									
	C. Profession			D. Age group					
	Total sample	Pediatrician	Dietician	Allergist	Other	<35	35–44	45–54	55+
		N=252	N=61	N=205	N=32	N=118	N=168	N=122	N=142
p									
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?									
No	422 (77%)								
Yes	128 (23%)								

(Continues)

TABLE 3 | (Continued)

	C. Profession					D. Age group				
	Total sample	Pediatrician	Dietician	Allergist	Other	<35	35–44	45–54	55+	
		N=252	N=61	N=205	N=32		N=118	N=168	N=122	N=142
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	—	—	—	—	—	—	—	—	—	
Partially or extensively hydrolysed formula	22 (4%)	12 (5%)	—	10 (5%)	—	0.23	5 (3%)	5 (4%)	12 (8%)	0.003
Restricting consumption of potential food allergens during pregnancy or breastfeeding	11 (2%)	5 (2%)	—	5 (2%)	1 (3%)	0.55	1 (1%)	1 (1%)	9 (6%)	<0.001
Using emollients as skin barriers	70 (13%)	26 (14%)	4 (7%)	27 (13%)	3 (9%)	0.43	15 (9%)	22 (18%)	24 (17%)	0.02
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	43 (8%)	15 (6%)	5 (8%)	23 (11%)	—	0.06	12 (7%)	13 (11%)	12 (8%)	0.44
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	25 (4.5%)	10 (4%)	3 (5%)	12 (6%)	—	0.55	6 (4%)	9 (7%)	5 (4%)	0.43
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	12 (2%)	6 (2%)	1 (2%)	5 (2%)	—	1	2 (1%)	4 (3%)	6 (4%)	0.06
Motivate exclusive breastfeeding until 6 months	77 (14%)	30 (12%)	9 (15%)	34 (17%)	4 (12%)	0.53	23 (14%)	16 (13%)	23 (16%)	0.84
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)	—	—	—	—	—	—	—	—	—	—
E. Continent										
Total sample	Africa	Asia	Oceania	Northern America	Central/South America	Northern Europe	Southern Europe	p		
Do you apply further measures in order to prevent food allergy in infants and young children at low risk for food allergy?										
No	422 (77%)									
Yes	128 (23%)									

(Continues)

TABLE 3 | (Continued)

	E. Continent								
	Total sample	Africa	Asia	Oceania	Northern America	Central/ South America	Northern Europe	Southern Europe	p
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	—	—	—	—	—	—	—	—	—
Partially or extensively hydrolysed formula	22 (4%)	1 (11%)	4 (5%)	—	1 (4%)	5 (8%)	—	11 (4%)	0.04
Restricting consumption of potential food allergens during pregnancy or breastfeeding	11 (2%)	2 (22%)	3 (4%)	—	—	4 (7%)	—	2 (1%)	<0.001
Using emollients as skin barriers	70 (13%)	3 (33%)	11 (15%)	—	3 (12%)	15 (25%)	17 (15%)	21 (8%)	0.005
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	43 (8%)	2 (22%)	8 (11%)	1 (12%)	1 (4%)	9 (15%)	8 (7%)	14 (5%)	0.07
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	25 (4.5%)	—	3 (4%)	—	1 (4%)	4 (7%)	5 (5%)	12 (5%)	0.98
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	12 (2%)	—	2 (3%)	—	1 (4%)	1 (2%)	6 (5%)	2 (1%)	0.11
Motivate exclusive breastfeeding until 6 months	77 (14%)	2 (22%)	7 (9%)	—	5 (21%)	20 (33%)	7 (6%)	36 (14%)	<0.001
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)				—	—	—	—	—	—

TABLE 4 | Implementation of Additional Measures to Prevent Food Allergy in Infants and Young Children at High risk for food allergy by A. Sex; B. Additional Education in Allergy; C. Profession; D. Age; E. Continent.

	A. Sex			B. Additional education in allergy			
	Male	Female	p	Yes	No	p	
	N=141	N=409		N=381	N=169		
General sample							
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?							
No	226 (41%)						
Yes	324 (59%)						
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	1 (1%)	4 (1%)	1	4 (1%)	1 (1%)	1	
Partially or extensively hydrolysed formula	23 (16%)	41 (10%)	0.06	56 (15%)	8 (5%)	0.001	
Restricting consumption of potential food allergens during pregnancy or breastfeeding	13 (9%)	20 (5%)	0.10	24 (6%)	9 (5%)	0.80	
Using emollients as skin barriers	43 (30%)	140 (34%)	0.48	147 (39%)	36 (21%)	<0.001	
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	32 (23%)	80 (20%)	0.50	93 (24%)	19 (11%)	<0.001	
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	13 (9%)	53 (13%)	0.30	49 (13%)	17 (19%)	0.43	
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	8 (6%)	21 (5%)	0.98	23 (6%)	6 (4%)	0.32	
Motivate exclusive breastfeeding until 6 months	39 (28%)	145 (35%)	0.11	122 (32%)	62 (37%)	0.33	
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)	—	—	—	—	—	—	
	33 (6%)						
C. Profession			D. Age group				
Pediatrician	Dietician	Allergist	Other	<35	35-44	45-54	55+
Total sample	N=252	N=61	N=205	N=32	N=118	N=122	N=142
p							
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?							
No	226 (41%)						
Yes	324 (59%)						

(Continues)

TABLE 4 | (Continued)

	C. Profession					D. Age group				
	Total sample	Pediatrician	Dietician	Allergist	Other	p				
		N = 252	N = 61	N = 205	N = 32		< 35	35–44	45–54	55+
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	5 (1%)	—	1 (2%)	3 (1%)	1 (3%)	0.06	2 (2%)	3 (2%)	—	—
Partially or extensively hydrolysed formula	64 (12%)	28 (11%)	1 (2%)	30 (15%)	5 (16%)	0.02	10 (9%)	15 (9%)	10 (8%)	29 (20%)
Restricting consumption of potential food allergens during pregnancy or breastfeeding	33 (6%)	12 (5%)	—	12 (6%)	9 (28%)	<0.001	4 (3%)	4 (2%)	6 (5%)	19 (13%)
Using emollients as skin barriers	183 (33%)	77 (31%)	11 (18%)	83 (40%)	12 (28%)	0.006	30 (26%)	49 (29%)	48 (39%)	56 (39%)
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	112 (20%)	34 (13%)	9 (15%)	63 (31%)	6 (19%)		16 (14%)	27 (16%)	26 (21%)	43 (30%)
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	66 (12%)	25 (10%)	9 (15%)	29 (14%)	3 (9%)	0.45	9 (8%)	23 (14%)	19 (16%)	15 (11)
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	29 (5%)	12 (5%)	3 (5%)	14 (7%)	—	0.47	3 (3%)	9 (5%)	9 (7%)	8 (6%)
Motivate exclusive breastfeeding until 6 months	184 (33%)	73 (29%)	19 (31%)	77 (38%)	15 (47%)	0.09	17 (32%)	56 (33%)	31 (25%)	60 (42%)
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)	—	—	—	—	—	—	—	—	—	—

(Continues)

TABLE 4 | (Continued)

	Total sample	Africa	Asia	Oceania	Northern America	Central/ South America	Northern Europe	Southern Europe	p
Do you apply further measures in order to prevent food allergy in infants and young children at high risk for food allergy?									
No	226 (41%)								
Yes	226 (41%) 324 (59%)								
Introducing soy protein-based formula in the first 6 months of life to prevent cow's milk allergy	5 (1%)	—	2 (3%)	—	—	1 (2%)	—	2 (1%)	0.43
Partially or extensively hydrolysed formula	64 (12%)	4 (44%)	11 (15%)	—	1 (4%)	9 (15%)	6 (5%)	33 (13%)	0.02
Restricting consumption of potential food allergens during pregnancy or breastfeeding	33 (6%)	2 (22%)	10 (13%)	—	1 (4%)	5 (8%)	5 (5%)	10 (4%)	0.03
Using emollients as skin barriers	183 (33%)	3 (33%)	28 (37%)	1 (12%)	5 (21%)	21 (35%)	39 (35%)	85 (33%)	0.70
Prebiotics, probiotics or synbiotics for pregnant and/or breastfeeding women and/or infants	112 (20%)	2 (22%)	16 (21%)	—	3 (12%)	23 (38%)	3 (12%)	48 (18%)	0.02
Vitamin supplementation or fish oil supplementation during pregnancy and/or breastfeeding women and/or infants	66 (12%)	1 (11%)	10 (13%)	—	2 (8%)	7 (12%)	12 (11%)	34 (13%)	0.98
Regular cow's milk-based infant formula after the first week of life to prevent food allergy	29 (5%)	—	7 (9%)	—	—	4 (7%)	9 (8%)	9 (3%)	0.25
Motivate exclusive breastfeeding until 6 months	184 (33%)	6 (67%)	22 (29%)	—	14 (58%)	34 (57%)	21 (19%)	87 (33%)	< 0.001
Introducing common allergens such as egg and peanut early into the infant's diet (i.e., between 4 and 6 months)	—	—	—	—	—	—	—	—	—

TABLE 5 | Age of food introduction for various foods in low risk and high risk for food allergy infants and young children.

	Low risk		High risk	
	N	Median [IQR]	N	Median [IQR]
<i>Starch</i>				
Gluten containing grains (wheat, barley, rye eg pasta, bread, etc.)	61	6 [5–7]	83	6 [5–7]
Gluten free cereals (buckwheat, quinoa, oat)	42	5.5 [4–6]	57	5 [4–6]
Maize products (i.e., polenta, baby maize snacks)	33	6 [5–7]	51	6 [5–6]
Potato, Sweet potato	47	6 [4.5–6]	68	5 [4–6]
Rice (including rice flour)	45	6 [4–6]	58	5 [4–6]
Rice pudding (containing milk)	18	8 [6.25–11.75]	27	6 [5–8]
Semolina pudding (containing milk)	17	7 [6–8]	26	6 [5–10]
Trahanas	12	7 [6–8.25]	16	7 [6–9]
<i>Vegetables</i>				
Cabbage, broccoli, cauliflower	44	5 [4–6]	57	5 [4–6]
Carrot	59	5 [4–6]	74	5 [4–6]
Root vegetables like celery	30	6 [4.25–6]	40	6 [4–7]
Green leafy vegetables (spinach, lettuce etc.)	42	6 [5–7]	44	6 [4.5–7]
Pea, green beans	33	6 [4–7]	44	6 [4–6]
Pepper	19	6 [5–8]	26	6 [4–10]
Tomato	34	6 [5–8]	40	6 [5–7]
Zucchini or courgette or other squashes	47	6 [4–6]	68	5 [4–6]
<i>Legumes</i>				
Beans (all types)	36	7 [6–8]	51	7 [6–8]
Chickpeas	28	7 [6–8]	41	6.5 [6–8]
Lentils	26	7 [6–8]	42	7 [6–8]
Soya	21	7 [6–9]	41	6.5 [6–9]
Peanut/peanut butter ^a	35	6 [5.5–8.5]	75	5 [4–6]
<i>Meat</i>				
Chicken/turkey/duck ^a	45	6 [6–7]	65	6 [5.75–7]
Processed meat like cold cuts/ham/salami	12	11.5 [9.75–12]	20	12 [12–14]
Lamb	25	6 [5–7]	39	6 [6–7.75]
Liver pate	12	9.5 [7.75–12]	20	8 [6.5–12]
Pork	22	7 [6–8]	44	7 [6–8.5]
Rabbit	22	6 [5.25–6.75]	34	6 [5–7]
Beef	41	7 [6–8]	60	6 [6–8]
Venison	14	7 [6–9]	15	7 [6–11.75]
<i>Fish</i>				
Crustaceans (shrimps, crayfish, crab, lobster)	19	12 [9–12]	33	12 [7.75–16]
Fish	50	7 [6–9]	78	7 [6–9]
Mollusks (clams, scallops, oysters, mussels, etc.)	14	12 [9–12]	35	12 [6.25–14]

(Continues)

TABLE 5 | (Continued)

	Low risk		High risk	
	N	Median [IQR]	N	Median [IQR]
<i>Fruits</i>				
Apple (and products made from apple like apple sauce)	59	5 [4–6]	71	5 [4–6]
Mango	21	5 [4–6]	35	6 [4–6]
Banana	52	5 [4–6]	66	5 [4–6]
Berries including strawberry	31	6 [5–8]	49	6 [4–8]
Dried fruits	21	8 [6–10]	26	8 [6–12]
Figs	19	6 [6–8]	25	6.5 [4–8]
Fresh fruit juice	27	6 [5–8]	34	6 [5–7]
Fruit juice (with or without sugar)	12	8 [4–12]	20	9 [6–17.5]
Grapes	22	6 [4.5–8.75]	34	6 [4–7]
Kiwi	26	6 [5–10.5]	40	6 [4.5–8.5]
Melon, watermelon	30	6 [5–7]	40	6 [4.5–6.5]
Orange, mandarin	30	6 [5–6.75]	37	6 [4.75–6]
Peach, apricot	36	6 [4–6]	50	6 [4–7]
Pear	45	6 [4–6]	58	5 [4–6]
<i>Avocado</i>				
<i>Beverages</i>				
Plant-based milk (specify here fortified/non-fortified)	8	10 [7.75–12]	19	9 [6–12]
Cow's milk yogurt ^a	32	8 [6–11.25]	51	7 [6–9]
Cream cheese	19	10 [8–12]	25	10 [8–12]
Feta cheese	11	12 [8.5–12.5]	18	10 [8–12]
Fresh cow's milk	25	12 [12–12]	33	12 [11–12]
Fresh goat/sheep milk	7	12 [12–12.5]	20	12 [10.5–12]
Kefir/Airani	11	12 [9–12]	17	9.5 [8–12]
Kids yogurt	23	8 [7–9.5]	31	8 [6–9.75]
Rice milk	7	11 [9–12]	12	12 [6.5–12]
Sheep/goat yogurt	13	12 [8–12]	17	9 [7–12]
Soy cheese	7	10 [9–12]	11	9.5 [6.5–11.75]
Soy milk	7	12 [10–12]	17	7.5 [6–12]
Soy yogurt	10	9 [7.25–11.5]	17	8 [6–10.5]
Cheese (i.e., cheddar, edam, Comte, parmesan)	23	10 [7.5–12]	36	9 [7–12]
<i>Egg</i>				
Hard boiled egg (boiling > 6 min)	62	6 [6–8]	107	6 [4–7]
Raw egg	9	11 [11–12]	17	12 [11.25–16.5]
Partially cooked like scrambled egg/sunny side egg	29	9 [7–11]	52	8 [6–10.5]
<i>Fat</i>				
Butter	23	6 [6–9]	38	7 [6–10]

(Continues)

TABLE 5 | (Continued)

	Low risk		High risk	
	N	Median [IQR]	N	Median [IQR]
Corn oil/vegetable oils	23	6 [5.5–6.5]	30	6 [5–8]
Margarine	9	7 [6–9]	16	9 [6–12]
Olive oil	38	6 [6–7]	47	6 [5–7]
Nut and seed oils	14	6.5 [6–8.75]	22	7 [6–9]
<i>Sweets</i>				
Baby biscuits without sugar	30	8 [7–8.75]	35	8 [7–9]
Fruit spread (i.e., jam)	13	9 [8–12]	23	12 [9–12]
Honey	21	12 [12–13]	30	12 [12–13]
Sweets, cake, biscuits	8	12.5 [11.75–14.25]	20	12 [12–17.5]
<i>Nuts</i>				
Mustard	9	12 [12–13]	19	12 [9.75–13]
Sesame/tahini ^a	18	8 [7–11.75]	45	6 [6–8]
Tree nuts (and nut butters) ^a	33	8 [6–11]	76	6 [6–8]
<i>Spices</i>				
Salt	20	12 [12–12]	35	12 [12–12.75]
Spices/herbs (e.g., pepper, cinammon, etc.)	22	12 [7.25–12]	36	12 [7–13]
<i>Additional</i>				
Preprepared baby food—Baby jars, pouches	15	6 [5.5–7.5]	19	6 [5.25–7.75]
Share family meal with salt	15	12 [12–12.5]	22	12 [12–16]
Share family meal without salt	21	10 [7–12]	38	10 [7–12]
Mashed Food	22	6 [6–8]	29	6 [5.75–8]
Pureed food	24	6 [4–6]	32	5 [4–6]
Food in pieces and finger food	31	8 [7–10]	36	8 [6.5–9]
Baby-led weaning	16	7 [6–9]	32	6 [5.5–8.5]

Note: Age: Months. N: number of participants reporting the respective food.

^arepresents $p < 0.05$ considered statistically significant.

with severe atopic dermatitis and/or egg allergy [36], findings later confirmed in other cohorts [37]. A multicountry study in Europe showed that factors such as breastfeeding, maternal age, and education contributed to earlier CF initiation, particularly in Northern Europe [38, 39]. These differences underscore the importance of incorporating cultural practices into guideline development.

4.4 | Food Introduction Intervals and Allergy Prevention

The interval between introducing new foods varied, ranging from 2 to 3 days for healthy infants to over 4 days for high-risk infants. The American Academy of Pediatrics previously recommended waiting 3–4 days between new foods to identify allergic reactions, but recent guidance acknowledges that multiple foods can be introduced at once [40]. Evidence suggests shorter

intervals (1–3 days) enhance dietary diversity without increasing risk [20, 41]. Our findings suggest variation in practice, with implications for both dietary diversity and oral tolerance development.

4.5 | The Role of Skin and Epithelial Barrier Function in Allergy Development

AD, family history of allergy, and recurrent bronchiolitis or wheezing were cited by respondents as key FA risk factors. Many HCPs recommended emollient use to restore the skin barrier, though evidence remains mixed. Some meta-analyses suggest emollients may reduce AD risk in high-risk infants [42, 43], but others show no significant effect on FA prevention [44]. Recurrent viral infections, such as Respiratory Syncytial Virus (RSV) bronchiolitis, may also impair epithelial barrier integrity and increase allergy risk [45–47]. Although not currently included in FA prevention

guidelines, nearly 40% of respondents identified bronchiolitis or wheezing as a potential risk factor, suggesting this is an area requiring further education and research.

4.6 | Implications for Clinical Practice, Guidelines, and Policy

Our results reveal gaps between guideline recommendations and real-world practice. For clinicians, this underscores the need for consistent messaging on the timing of CF and allergen introduction, enhanced education for HCPs, and the integration of culturally relevant foods into recommendations. For guideline developers, our findings support regionally sensitive, flexible approaches that balance global evidence with local practices and resources. For policymakers, public health campaigns that normalize early allergen introduction—tailored to cultural norms—could help reduce the global FA burden.

4.7 | Limitations

This study has several limitations. The survey relied on self-reported practices, which may be subject to recall and social desirability bias. Regional representation was uneven, with higher participation from European HCPs, potentially limiting generalizability to low- and middle-income countries. The cross-sectional design prevents causal inference, and subgroup analyses were based on univariate comparisons, which may not fully account for correlations between sociodemographic variables. Finally, clinical outcomes such as actual FA incidence were not assessed, so the impact of reported practices cannot be directly evaluated.

4.8 | Future Directions

Future studies should explore the long-term impact of CF practices on allergy outcomes across diverse global populations, with emphasis on underrepresented regions where cultural norms and health system constraints may shape feeding strategies differently. Research is also needed to evaluate implementation strategies for integrating early allergen introduction into culturally specific feeding practices, ensuring that recommendations are both evidence-based and contextually appropriate. Further work should explore the role of epithelial barrier function and viral infections in the development of food allergy, as emerging evidence suggests these mechanisms may significantly influence sensitization pathways. A final priority for future studies is to assess the effectiveness of HCP educational programs aiming to improve adherence to evidence-based CF guidelines and enhance the consistency of advice provided to families.

5 | Conclusion

CF practices are shaped by diverse guidelines, HCP training, and cultural traditions, leading to heterogeneity in real-world implementation. While global health organizations generally recommend CF initiation at six months, allergy-focused guidelines support earlier allergen introduction between 4 and 6 months.

Our findings highlight the importance of regionally sensitive, evidence-based updates to CF guidelines that integrate cultural practices and risk-stratified approaches. Strengthening education, fostering culturally appropriate implementation, and investing in cross-regional research are essential to improving infant nutrition and reducing the growing global burden of food allergies.

Author Contributions

E.V. conceived the study; E.V., I.P., S.T., S.A., R.W.M., and C.V. contributed to the study design; E.V., R.W.M., and C.V. drafted the initial manuscript; All authors were involved in the revision of the study questionnaire, data acquisition, critical revision, and approved the final version of the manuscript.

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Conflicts of Interest

S.A. declares that she has participated as an advisory board member, consultant, and/or speaker/chair at scientific meetings for Aimmune, Allergy Therapeutics, DBV, Ferrero, Mabylon, Novartis, Stallergenes Greer, Thermo Fisher, and Ulrich. G.D.T. is a Scientific Advisory Board member for ALK, Aimmune, GrowHappy Immunonutrition, and Novartis; investigator on pharma-sponsored peanut allergy immunotherapy studies (Aimmune, DBV Technologies); and joint Director of the Allergy Centre of Excellence and Director of London Allergy Consultants. G.P.M. received grants from Angelini S.P.A. and Reckitt Benckiser Healthcare S.P.A., and acted as an advisor for scientific projects funded by Angelini S.P.A. A.N.W. receives research support from NIH NIAID, DBV Technologies, and Solita Therapeutics; speaking fees from Nestlé, Danone, Medscape, and Genentech; royalties from UpToDate; serves as an Associate Editor for the *Annals of Allergy, Asthma and Immunology*; is a Director of the AAAAI Board and Chair of the Medical Advisory Board of the International FPIES Association. M.G. reports personal fees from Sanofi and Thermo Fisher Scientific. S.H. received consultation fees from ALK-Abelló, Nestlé Purino, Abigo, Mead Johnson, and is a member of the data monitoring committee for Stallergenes. C.O. is Chair of the EAACI Allied Health and Primary Care Section, Member of the EAACI Executive Committee, and Assistant Editor of *Allergy*. P.S. declares an advisory board and speaker honoraria from Viatrix and Sanofi. He has investigator-initiated grants funded from Hyloris, GSK, and Sanofi. He has grants from NH&MRC, Stafford Fox, and NIH. L.O.M. reports research grants from Chiesi, Reckitt, and Fonterra, and participation in a speaker bureau for Nestlé, Yakult, Reckitt, and Abbott. R.W.M. reports grants with Danone/Nutricia; honoraria from Reckitt Benckiser, Nestlé Nutrition Institute, Danone, and Abbott Nutrition; and consultancy fees from Else Nutrition and CoMISS supported by Nestlé Nutrition. C.V. has received research grants from Reckitt and Global Parents for Eczema. She has also received personal fees from the Nestlé Nutrition Institute, Danone, Reckitt, and Abbott. F.R.-W. is the lead inventor of EP2894478, has served as an investigator, speaker, and/or advisor for Biomedical Int R&D, Allergy Therapeutics,

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Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Appendix S1:** all70188-sup-0001-AppendixS1.docx.