



Development of a practice guideline for dietary counselling of children with IgE-mediated food allergy

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Summary

Purpose The incidence of food allergy is increasing globally and whilst there is consensus that dietitians should be involved in its management, the roles that dietitians should fulfil differ between different guidelines and the description of tasks remains unclear. Currently, no Swiss guideline exists to assist dietitians in counselling children with food allergies. There is a need for recommendations that will guide dietitians through the counselling process. The aim of this project was to create a practice guideline for dietary counselling of children with food allergy.

Methods Practice guidelines were developed following the Academy of Nutrition and Dietetics stepwise approach. The process consisted of six steps: (1) Determine the scope of the guideline. (2) Conduct a systematic review. (3) Draft the guideline recommendations

using the Nutrition Care Process (NCP) as a framework. (4) Finalise the guideline during a face-to-face meeting. (5) Conduct internal and external review and revise accordingly. (6) Publish guideline.

Results The process resulted in 25 recommendations for dietary counselling. Most recommendations are based on expert opinion only, due to the lack of studies in this field and showed similar levels of consensus between the expert group and external review by allergists. However, there were nine recommendations where the consensus differed.

Conclusion This guideline provides a comprehensive guide to dietary counselling for food allergy by dietitians in Switzerland. It will inform best practice and improve patient-centred care and encourage a consistent approach, but it will need to be reviewed and updated as more robust evidence is produced.

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Abbreviations

CMA	Cow's milk allergy
NCP	Nutrition Care Process
PICO	Patient, Intervention, Comparison, Outcome

Background

An allergy is a hypersensitivity reaction initiated by immunologic mechanisms [1]; the World Allergy Organisation estimates the incidence of food allergy in toddlers at 5–8% [2] and it appears to be increasing globally [3]. In this age group, staple foods including cow's milk, hen's egg, wheat, and foods that are difficult to avoid, such as peanuts and hazelnuts, often cause allergic reactions [4]. Food allergies are commonly managed by the avoidance of allergy-inducing substances [5]. However, long-term elimination diets without supervision can lead to nutrient deficiency, poor nutritional status [6] and a less varied diet [7]. Moreover, the elimination and replacement of problem foods can lead to increased strain on families and is associated with fear of accidental contamination, especially if multiple or difficult to avoid foods are involved [8]. All of these factors can result in a significantly lower quality of life for the person concerned and his/her family [9].

Patients with confirmed food allergy need clear recommendations and guidance from a qualified health professional to implement the elimination diet into daily life. European and international guidelines recommend involving dietitians with competencies in food allergy, including diagnosis and management [5, 10–12]. The roles that dietitians should fulfil in the management of children with food allergy differs between different guidelines and the description of tasks remains unclear. The European guideline and the German guideline list topics which should be covered in dietary counselling of patients with food allergy [5, 12] and the European Academy of Allergy and Clinical Immunology recently published competencies for healthcare professionals working in allergy [13]. The guideline by the Australasian Society of Clinical Immunology and Allergy is the only one that clearly defines the role of a dietitian in the diagnosis and management process and gives concrete recommendations for dietitians working with patients with food allergy [14]. Other professional societies, including the Academy of Nutrition and Dietetics and the International Network for Diet and Nutrition in Allergy, have published position papers on the role of a dietitian in the diagnosis and management of patients with food allergy [15, 16]. However, these documents are mainly based on expert opinions and their development was not structured nor was their influence evaluated.

Guidelines provide a standardised approach to practice and are able to optimise patient care by providing consistency across healthcare settings [17, 18]. They also improve the effectiveness of practice

by reducing risk of harm and ineffective variations in care [18, 19]. However, it is widely acknowledged that clinical guidelines should be adapted to meet individual needs and preferences where possible [20].

Therefore, the aim of this project was to develop a guideline for dietitians counselling children with diagnosed IgE-mediated food allergy. A special focus was placed on children with cow's milk allergy (CMA) as they are particularly affected by nutrient deficiencies [21, 22].

The guideline can be used by dietitians working in private practice and in hospitals in Switzerland. Moreover, this approach can be transferred to inform guideline development in other countries. The goals of this guideline are to improve patient quality of life, to avoid unnecessary food restrictions, to enable adequate nutrient intakes, to provide strategies on avoiding accidental allergen uptake, and to facilitate general allergen avoidance in the daily lives of children with IgE-mediated food allergy and their families.

Methods

This guideline is based on the stepwise approach for development of evidence-based nutrition practice guidelines by the Academy of Nutrition and Dietetics, with slight modification [23]. Table 1 outlines the implementation process. This method was chosen as it structures the guideline according to the NCP which is a standardised framework for dietetic practice that is recommended to be used by the Swiss Association of Registered Dietitians SVDE-ASDD. The NCP is composed of four steps of patient care: nutrition assessment, nutrition diagnosis, nutrition intervention, plus nutrition monitoring and evaluation [24].

A guideline development group was convened and comprised JE, SB, CR and an expert group of health professionals, selected according to their knowledge, competency and expertise in food allergies. The experts included ten dietitians from all areas of the German-speaking part of Switzerland working in the field of food allergy, as dietary counsellors for hospitals or in private practice. The expert group also included a representative of the national patient organisation *aha!* Swiss Allergy Centre and one paediatric allergist. The group undertook a stepwise approach to the development of the guideline.

Step 1: Scope of the guideline: This step involved developing a goal for the guideline and relevant practice questions formatted by the PICO structure (Patient, Intervention(s) or Exposure(s), Comparison and Outcome) [25]. The expert group evaluated these questions using a 5-point scale regarding their relevance for practice (0 not relevant to 5 very relevant) (Online Resource 1).

Step 2: Systematic review: In undertaking step 1, by screening guidelines, expert reviews and position papers, three topics were identified which were expected to be found in primary literature. These were

Table 1 Implementation of guideline development process by the Academy of Nutrition and Dietetics for the practice guideline of children with IgE-mediated food allergy [22]

Steps	Implementation
1. Determine the scope of the guideline	 a. The goal of the guideline was defined by SB and JE, and practice questions developed based on existing guidelines, position papers and review papers
	 b. Experts judged the relevance of the questions on a five-point scale on a SharePoint® workspace
2. Conduct systematic review	 A systematic review was conducted by CR and JE on three topics following the stepwise approach of the Academy of Nutrition and Dietetics [26]
3. Draft guideline recommendations using the NCP model as a framework	 a. A draft of the guideline with the recommendations, background information and advantages and disadvantages of each recommendation was developed by SB and reviewed by JE
	 b. The experts commented on the draft guideline on a SharePoint® workspace
4. Finalise guideline during a face-to-face meeting	 Open questions were discussed in a face-to-face meeting with experts. The discussion was prepared by SR and moderated by JE
5. Conduct internal/external review and revise	 a. Internal Review: Two rounds of an online Delphi Survey were sent to the experts. Recommendations receiving less than 70% full agreement in the second round were excluded from the guideline
	 b. External Review: The adapted online survey was sent to allergists working in the German-speaking part of Switzerland for external review. Sixteen paediatric allergists answered to what extent they agreed that dietitians should fulfil these tasks
6. Publish guideline; Evaluate for revision	 The full guideline is published on the website of Bern University of Applied Sciences. It is planned to evaluate the guideline. The revision will be in 5 years

Table 2 Summary of the systematic literature search using the method of the Academy of Nutrition and Dietetics [26]

Topic	Nutrient intake	Infant formula	Dietary advice
PICO Questions	P: Children with IgE-mediated food allergy I: Dietary avoidance C: n/a O: Nutrient intake, height/length, weight, growth	P: Infants with CMA I: Infant formula C: Other formula O: Symptoms, growth, nutrient intake	P: Children with IgE-mediated food allergy I: Dietary advice C: n/a O: Tolerance, growth, nutrient intake, quality of life
Search term	(Children OR child OR paediatric OR infant) AND ((food OR milk OR egg OR peanut OR wheat OR soy OR fish) allergy) AND (((nutrient (intake OR deficiency)) OR weight OR growth))	(Infant OR baby) AND (milk allergy OR CMA) AND ((extensively OR partially) hydrolysed OR hypoallergenic OR amino acid formula) (symptoms OR nutrient intake OR growth OR weight)	(Dietary OR nutritional OR nutrition (advice OR counselling OR counselling OR information)) and ((food OR egg OR nut OR peanut OR soy OR milk) allergy) and (tolerance OR growth OR nutrient intake OR quality of life)
Limits	5 years, English	5 years, English	5 years, English
Number of included studies	3 Cohort studies 2 Case control studies 5 Cross sectional study	7 Randomised controlled trials 1 Cohort study 5 Noncontrolled trials	3 Randomised controlled trials 2 Noncontrolled trials
Conclusion state-ments	Children with food allergy may be smaller and lighter than healthy children	Normal growth can be archived with Amino Acid formula	More studies are needed to be able to give evidence based dietary advices for children with food allergy
	Children with CMA and multiple food allergies may show more micronutrient deficiencies	Hints that probiotics might have a positive effect on tolerance development	Hints that eating baked milk products of children tolerating these products might have a positive effect on tolerance development in children with cow's milk allergy
	More studies are needed to further investigate the effect of food allergy on growth and nutrient intake		
PICO patient/problem, intervention, comparison, outcome, n/a not applicable			

Table 3 The rating scheme for the strength of the recommendations adapted from the Academy of Nutrition and Dietetics [23]

Statement rating	Definition
<i>Strong (I)</i>	The benefits of the recommendation clearly exceed the harms and the quality of the evidence is good (grade I or II)
<i>Fair (II)</i>	The benefits of the recommendation exceed the harms, but the quality of the evidence is not as strong (grade II or III)
<i>Weak (III)</i>	The quality of the evidence is suspect or that well-done studies (grade I, II or III) show little clear advantage
<i>Consensus (IV)</i>	Expert opinion (grade IV) supports the recommendation even though the evidence does not support consistent results, or controlled trials are lacking
<i>Insufficient evidence (V)</i>	A lack of pertinent evidence (grade V) and/or an unclear balance between benefits or harms

Table 4 Evidence and consensus level for the recommendations relating to the nutrition assessment process

Recommendations: Nutrition Assessment	EL ^a	CL E ^b (%)	CL A ^c (%)
Food/Nutrition Related History			
1. <i>Diet history</i> The dietitian should obtain a diet history	IV	91	100
2. <i>Content of diet history</i> The diet history should include the following: (a) Intake of foods and beverages (b) Tolerated foods (c) Avoided food(group)s and reasons therefore (d) Use of substitute products and/or supplements	IV	100	100
3. <i>Suitable assessment methods</i> The dietary intake of the child with diagnosed food allergy can be obtained via diet history, 24 h recall or a dietary record. In case of risk of nutrient deficiency, a three-day food diary should be taken	IV	89	92
4. <i>Evaluation of assessment</i> Depending on the allergy the intake of specific nutrients will be evaluated	IV	100	88
Anthropometric Measurements			
5. <i>Weight and height</i> The dietitian should consider height and weight in the assessment and compare it to growth charts with children of the same age and gender	IV	91	94
Biochemical Data, Medical Tests and Procedures			
6. <i>Diagnostic tests and diet-specific laboratory parameters</i> The dietitian considers results of allergy-specific diagnostic tests (specific IgE, skin prick tests and food challenges) in the assessment. If they are not available, they should be requested. If available, the dietitian includes diet-specific laboratory parameters in the assessment	IV	100	81
Nutrition-Focused Physical Findings			
7. <i>Overall impression of the child</i> The dietitian should consider the overall impression of the child in the assessment. Moreover, allergy-specific co-morbidities should be documented. This requires close collaboration with the allergist	IV	100	100
Client History			
8. <i>Content of client history</i> The client-assessment for children with food allergy should include:			
(a) Medical situation	IV	100	100
(b) Language requirements	IV	91	100
9. <i>Allergy-specific medical (clinical) history</i> The dietitian should assess the following aspects, if not present in the medical records:			
(a) Known allergies and other atopic diseases and other medical diagnoses	IV	89	81
(b) Symptoms of food allergy	IV	100	100
(c) Atopic diseases in the family	IV	89	69
Discrepancies of 20 percentage points or more are highlighted in bold numbers			
^a EL evidence level			
^b CL E (%) consensus level expert group			
^c CL A (%) consensus level allergists			

‘formula for infants with CMA’, ‘dietary advice for patients with food allergy’ and ‘growth, nutrient intake and food allergy’. Systematic reviews were conducted on these three topics using the five-step approach recommended by the Academy of Nutrition and Dietetics

[26]. CR and JE searched for articles in Medline® (National Library of Medicine, Rockville Pike, Maryland, USA), Embase® (Elsevier, Amsterdam, Netherlands) and Cochrane Library® (Cochrane, London, UK) and included relevant studies regarding predefined inclu-

Table 5 Evidence and consensus level for the recommendations relating to the nutrition intervention process

Recommendations: Nutrition Intervention	EL ^a	CL E ^b (%)	CL A ^c (%)
Food and/or Nutrient Delivery			
1. Substitutes for children with CMA The selection of an adequate infant formula for children with CMA should be in consultation with the responsible allergist. The allergist will prescribe the formula. For the selection, various individual factors should be considered such as nutrient content, cost and flavour. The nutrient intake of the child should be regularly monitored. A stepwise approach is recommended: 1. First choice ^{d,e} : breast milk, eventually avoidance of the culprit food 2. Formula with extensively hydrolysed cow's milk protein (EHF) 3. Amino Acid Formula (AAF) (<i>comment: In Switzerland costs are covered by medical insurance, if EHF is not effective</i>)	II	100	100
2. Unsuitable substitutes for CMA For CMA, the following products are <i>not</i> suitable as breast milk substitute and therefore <i>cannot</i> be recommended: (a) Infant formula comprising of soy or rice (rice formula not available in Switzerland), depending on the age of the child ^d (b) Partly hydrolysed infant formula (c) Lactose free milk and milk drinks (d) Cereal or nut drinks are not recommended as milk substitutes but can be used for meal preparation (e) Milk and infant formula of other mammals, such as goat or sheep, in most cases ^d (f) Self-made infant formula	IV	89	77
	IV	90	62
	IV	100	80
	IV	100	80
	IV	100	69
	IV	100	82
3. Prevention and treatment of nutrient deficiency Careful support and monitoring of the diet by an experienced dietitian are important to avoid or treat nutrient deficiencies. Therefore, the following interventions are recommended: (a) Education on alternative products with adequate nutrient coverage I. Alternative products to replace avoided food(s) II. Use of substituted products (b) Alternative products for meal preparation (c) Where appropriate discuss supplementation	IV	100	100
	IV	90	100
	III	100	100
Nutrition Education			
4. Training in allergen avoidance The dietitian should empower the child with food allergy and the parents to avoid the allergy-eliciting food in daily life without being too restricted. Therefore, the following topics should be discussed in dietary counselling: (a) How to avoid the allergen uptake: Which products may contain the allergy-eliciting food and respectively, which foods should be avoided (b) Meal preparation safety and techniques (c) Discussion of unnecessary restrictions (d) Effects of the disease on nutrition	IV	100	100
	IV	90	100
	IV	100	93
	IV	100	93
5. Quality of life promotion To improve the quality of life of the child and their parents, the dietitian should discuss the following topics: (a) Recommendation to assure a clear diagnosis (b) Consider individual tolerance (c) Consider personal preferences (d) Handling of out of home consumption (e) When indicated discuss oral food challenges with allergist	IV	100	93
	IV	100	93
	IV	100	100
	IV	100	100
	III	100	93
6. Food law The legal basis of allergen information on prepacked and non-prepacked food should be communicated in an understandable way. This should contain: (a) General information on food laws (b) Reading and interpreting ingredient lists (c) Handling precautionary labelling	IV	100	87
	IV	100	93
	IV	100	73
7. Risk situations The dietitian should sensitise children and their parents to situations with risk without unnecessarily alarming them. Therefore, the following topics should be discussed: (a) Out of home consumption I. Restaurants II. Traveling with food allergy III. Third-party care (e.g. school, nursery, grandparents) (b) Contaminations	IV	100	100
	IV	100	93

Table 5 (Continued)

Recommendations: Nutrition Intervention	EL ^a	CL E ^b (%)	CL A ^c (%)
8. New situations Children develop and grow constantly, therefore, new situations arise, which should be discussed in dietary counselling. Ideally, dietary counselling should happen before foreseeable changes. For example, the implementation of solid foods to prevent additional allergies according to current guidelines ^{d,f}	IV	100	80
Nutrition Counselling			
9. Counselling aids It can be helpful to use counselling aids for counselling of children with food allergies and their parents. For example: (a) Fact sheets with written information (b) Lists with pictures (c) Food replicas (d) Printed ingredient lists (e) Product examples from the internet (f) Lists with pictures of foods (g) Positive-negative lists (h) Foods that parents bring (i) Links, e.g. of self-help groups	IV	100	85
10. Accidental reactions Instructions on how to act in case of an accidental reaction (including anaphylaxis) is generally the duty of the physician. The dietitian can play a supporting role by double checking, if the emergency plan and drugs are available and that the patient knows how to use them. The dietitian can recommend anaphylaxis-training and consult the physician if no emergency plan exists but is necessary	IV	100	100
11. Counselling style and language The counselling style and the language used should be adequate for the age of the child, be clear and understandable to both the parents and child, and their socioeconomic status should be considered. In case of language difficulties an interpreter should be utilised	IV	100	100
12. Target group Dietary counselling should address the child depending on his/her age as well as the parents. As required, relatives, friends, teachers and further persons that look after the child can be included. Alternatively, parents may be empowered to inform others	IV	100	93
Coordination of Care			
13. Interprofessional cooperation The optimal management of children with food allergy should use a multidisciplinary approach. The dietitian will work closely with the allergist and other health professionals and refers to further contacts when required	IV	100	100
Discrepancies of 20 percentage points or more are highlighted in bold numbers ^a EL evidence level ^b CL E (%) consensus level expert group ^c CL A (%) consensus level allergists ^d See full guideline for further detail ^e Provided the mother wishes to breastfeed ^f This includes to give tolerated food regularly and not to avoid foods due to fear of a further allergy			

sion and exclusion criteria. Two authors (CR and JE) critically appraised these studies. CR and JE summarised the evidence (Online Resource 2) and wrote a conclusion statement (Table 2). Those statements informed the recommendations to be included in this guideline.

Step 3: Draft the guideline: Two authors drafted the guideline (SB and JE) using the NCP structure for guidance based on the results of the systematic reviews conducted in step 2, existing guidelines, position papers, expert reviews and a qualitative study based on interviews with Swiss dietitians [27] (Online Resource 3). The expert group commented on this draft using an online Sharepoint® (Microsoft, Redmond, WA, USA). Table 3 shows a summarised version of the Academy of Nutrition and Dietetics rating scheme and grading system. Evidence is based on the elements of quality, consistency, quantity, clinical impact and generalisability.

Step 4: Face-to-face meeting: The agenda for the face-to-face meeting to finalise the guideline was based on the remaining draft comments. The guideline was adapted according to the results of the meeting.

Step 5: Review and revise the guideline: Internal review: Two rounds of an online Delphi survey were sent to the experts [28]. Recommendations receiving less than 70% full agreement in the second round were excluded from the guideline. An online questionnaire was sent to the experts of the guideline development group using Survey Monkey® (SVMK Inc., San Mateo, Canada). For each recommendation respondents registered their agreement using a 5-point Likert scale (1 fully agree to 5 strongly disagree). Furthermore, they had the option to add comments. The Delphi process reduced recommendations from 31 to 25. Additionally, these 25 recommendations were sent to allergists working in the German-speaking part of

Table 6 Evidence and consensus level for the recommendations relating to the nutrition monitoring and evaluation process

Recommendations: Nutrition Monitoring and Evaluation	EL ^a	CL E ^b (%)	CL A ^c (%)
Anthropometric Measurements			
1. <i>Monitoring of weight and height</i> Weight and height as well as the development along the centile curve should be assessed on a regular basis	IV	90	100
Biochemical Data, Medical Tests and Procedures			
2. <i>Monitoring of natural course and laboratory parameters</i> To be controlled on a regular basis if the allergy persists. This is generally the duty of the allergist. However, the dietitian can consult the allergist and request to undertake a food challenge. If malnutrition is suspected, it is reasonable to evaluate relevant laboratory parameters	IV	100	67
Nutrition-Focused Physical Findings			
3. <i>Monitoring of symptoms</i> The dietitian should ask if an accidental allergic reaction occurred (symptoms, anaphylaxis). The development of physical findings (e.g. change of eczema) should be considered in monitoring	IV	100	80
Discrepancies of 20 percentage points or more are highlighted in bold numbers			
^a EL evidence level			
^b CL E (%) consensus level expert group			
^c CL A (%) consensus level allergists			

Switzerland for external review. Sixteen paediatric allergists answered to what extent they agreed that dietitians should fulfil these tasks on a Likert scale (1 fully agree to 5 strongly disagree). Internal and external review were analysed using Excel® (Microsoft, Redmond, WA, USA). The frequency of the answers ‘fully agree’ and ‘considerably agree’ of the internal and external review is reported in Tables 4, 5 and 6.

Ethics

Participants of the expert group signed an informed consent form. The project was ethically approved by the Research Ethics Committee for the Faculty of Health and Human Sciences and Peninsula Schools of Medicine and Dentistry, Plymouth University. A jurisdictional inquiry was submitted to the Ethics Committee Bern, who advised that it did not require their approval because no generalisable and health related data was obtained in this research project.

Results

The final version of the practice guideline consists of 25 practice recommendations. Nine recommendations for the nutrition assessment of children with diagnosed IgE-mediated food allergy (Table 4). Thirteen recommendations for nutrition intervention (Table 5) and three for nutrition monitoring (Table 6). The recommendation to define nutrition diagnoses was excluded as a consequence of the Delphi rounds, because it did not reach the required consensus level, leaving recommendations for three of the NCP steps.

There are only three recommendations that are based on published research evidence in addition to expert opinion. These are recommendation 10 on substitutes for children with CMA, recommendation 12c on supplementation for ‘prevention and therapy of nutrition deficiencies’ and recommendation 14e on

‘when indicated discuss oral challenges with allergist’ for quality of life promotion. All other recommendations are based on expert opinion of guidelines, position papers, expert reviews, interviews with dietitians and the opinion of the expert group.

The majority of the recommendations showed similar levels of consensus between the expert group and allergists. However, there were nine recommendations where the results differed by 20% or more; 9c, 11b, 11c, 11d, 11e, 15c, 17, 24 and 25 (Tables 4, 5 and 6).

The full guideline with background information including the references on which the recommendation is based, and advantages and disadvantages of its implementation can be downloaded in German on the Bern University of Applied Sciences website (<https://www.bfh.ch/dam/jcr:34f97a5a-0065-45ba-8340-fc37e0f62abe/ERNA.pdf>). An update of the guideline will be provided in five years.

Discussion

This project has produced a guideline to assist dietitians in counselling children with food allergies, based on all available evidence. It is focussed on the management of food allergy, as this is the usual role of dietitians in Switzerland, even though we would appreciate them being more involved in diagnosis. At present this largely remains the domain and responsibility of allergists in Switzerland. Consensus levels of the expert group and allergists were used in combination with the NCP to form the recommendations and provide a more targeted approach to the development of the guideline. The majority of the recommendations showed similar levels of consensus between the two groups. However, there were a small number of recommendations where the results differed, as outlined in Tables 4, 5 and 6. This difference highlights the importance of interprofessional collaboration in

the treatment and management of food allergy. With greater interprofessional working and more effective communication between different health professionals, such as dietitians and allergists, fewer discrepancies in opinion may occur resulting in more efficient patient care.

Recommendation 11b states partially hydrolysed infant formula is not recommended as a breast milk substitute, but the experts' and allergists' did not agree with a difference in the consensus level of 28%. While it is recognised a small number of infants may tolerate partially hydrolysed infant formula, expert guidelines on management of CMA do not recommend its use [21, 22, 29]. Similarly, there was a 20% difference in consensus levels on recommendation 11c and 11d; lactose free milk and milk drinks, and cereal or nut drinks, should not be recommended as a breastmilk substitute. Nut and cereal drinks are not nutritionally adequate, often low in energy, protein, and many vitamins and minerals, which is why they should not be recommended [21]. Lactose free formula is also not recommended due to the content of intact cow's milk protein which can cause an allergic reaction [21]. Recommendation 11e, with a 31% discrepancy, concerns infant formula of other mammalian milks, which also potentially contain proteins which could cause an allergic reaction [21]. However, the DRACMA guidelines of the World Allergy Organisation from 2010 recommend milk of other mammals for individual patients when diagnostic indicates that they are tolerated [11]. Moreover, recent research has found camel's milk to be safe and well tolerated in patients with CMA over one year of age [30]. Both may explain the difference in opinion. For a revision of the guideline, it may be beneficial to separate products that are unsuitable due to allergological concerns from those being nutritionally inadequate as breastmilk substitute. This may lead to a clearer distinction and prevention of any misunderstanding.

Considerable disagreement was also seen for recommendation 15c: Communicating information about handling precautionary labelling (Food law), where there was a 27% difference in consensus levels. It is obviously in the best interest of the patient to educate them on identification of the allergen, so it can be avoided [16]. Correct label identification has been shown to be associated with prior instruction by a dietitian [31]. According to a survey in the UK however, dietitians seem to be more cautious in recommending eating foods with precautionary labelling than allergists [32]. Even though legislation on precautionary labelling is slightly different in Switzerland, in that it is mandatory, if a certain amount of the allergenic ingredient is or may be exceeded, the questions remains who should avoid products labelled this way. A common agreement between allergist and dietitians regarding labelling and who would discuss this with the patient would be in the best interest of the patient to avoid confusion. This is especially necessary as

questions on precautionary labelling are frequently raised in dietary counselling of patients with food allergies.

The evidence levels for most recommendations in this guideline are low with most being expert opinion. Food allergy is a broad topic involving a vast number of different foods and mechanisms and the literature can often be conflicting on what advice should be provided to patients. Limited studies are available on dietary advice for food allergy which is partly due to ethical issues with performing randomised controlled trials with allergic individuals [33]. Most studies focus on diagnosis of food allergy rather than management. Working collaboratively using a multidisciplinary approach to food allergy is important both in practice and in research settings to provide effective patient-centred care.

The guideline is structured according to the NCP resulting in a series of recommendations designed for clinical practice. However, some clinicians may find the length and detail of the guideline unacceptable, meaning the guideline is not implemented. It is also recognised that implementation of the guidelines by dietitians, to standardise care and patient management with the goal of improving care, may be difficult and challenging due to limited time resources and daily routine. As dietitians in Switzerland are used to working with the NCP and know its structure, it might be easier to extract the relevant information and use the full guideline as a lookup document. We will evaluate the implementation of the guideline when we revise it and will shorten it, if necessary. Lastly, counselling strategies vary between different allergies, which make it difficult to define specific recommendations for each different allergy. For example, in children with CMA it is important to find alternative calcium sources, whereas in peanut allergic children nutrient deficiencies are not relevant. In these children it is more important to empower patients and their families to detect hidden peanut protein.

The next step is to evaluate the effectiveness of dietary counselling defined by this project. A cohort study is being undertaken in several hospitals across the German-speaking part of Switzerland. Dietitians will be asked to document the process of using the guideline and this will be evaluated by asking patients about the impact of the counselling on their quality of life, frequency of allergic symptoms, growth and food diversity.

This newly developed guideline provides a clearer view of the role of a dietitian in supporting the patient-focused management of food allergy. The recommendations will guide dietitians through the process of counselling and can be used as a tool to document progress with patients. It can be used by dietitians in private practice and in hospitals and is especially relevant for dietitians new to the field of food allergies. Furthermore, the discussions and written exchanges within the guideline development group offered the

possibility to adopt a common understanding on dietary counselling of children with food allergy.

In conclusion, we have developed a comprehensive guideline, based on the best available evidence and expert opinion, to support dietary counselling for food allergy. It will help ensure consistency of care between experienced and less experienced specialist paediatric allergy dietitians to improve the quality of life of food allergic children and their families and reduce the burden of food exclusion.

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