Clinical & Experimental Allergy

WILEY

RESEARCH LETTER OPEN ACCESS

Parents' Perspectives on Prevention and Risk Prediction of Food Allergies in Children: A Qualitative Study

Katharina Gerhardinger[1,2] | Susanne Brandstetter[1,2] | Madlen Hörold[3] | Magdalena Rohr[1,2] | Mara König[1,2] | Christian Apfelbacher[2,3]

[1]University Children's Hospital Regensburg (KUNO), Hospital St Hedwig of the Order of St. John, University of Regensburg, Regensburg, Germany | [2]Research and Development Campus Regensburg (WECARE), Hospital St. Hedwig of the Order of St. John, Regensburg, Germany | [3]Institute of Social Medicine and Health Systems Research, Medical Faculty, Otto-von-Guericke University Magdeburg, Magdeburg, Germany

Correspondence: Susanne Brandstetter (susanne.brandstetter@klinik.uni-regensburg.de)

Received: 7 May 2024 | **Revised:** 28 August 2024 | **Accepted:** 9 September 2024

Funding: The project is funded by the Federal Ministry of Education and Research (01EA2108B/D). Open Access funding enabled and organized by Projekt DEAL.

To the Editor,

About 6%–8% of children in Western countries develop food allergy (FA) [1], leading to severe, sometimes life-threatening symptoms. Therefore, predicting the risk of and preventing childhood FA is a significant public health concern. The last decades have seen a paradigm shift in allergy prevention [2]. As a result, parents are faced with a wide range of sometimes conflicting information and may encounter additional challenges in finding accurate information, especially online [3]. There is limited qualitative research on childhood FA prevention, as previous studies have focused on the challenges of managing FA [4].

As part of the NAMIBIO app consortium [5], our qualitative study aimed to systematically describe parental information needs and their information seeking behaviour regarding childhood FA risk prediction and prevention. Additionally, we sought to understand parents´ attitudes towards a health app for early risk prediction and prevention of FA in children [6].

In 2022, KG, MH, MR and CD conducted 30 semi-structured interviews (each 30–60 min), with parents of children up to 3 years of age in Germany. There was no personal relationship between interviewer and interviewees. Interviewees were parents of children diagnosed with FA ($n = 18$), at risk of FA ($n = 13$), or without known risk factors ($n = 3$) [7]. Using computer-assisted qualitative content analysis [8], we identified five main (deductive) categories and 15 inductive subcategories [7]. Transparency and intersubjectivity were ensured through communicative validation in weekly interpretation work sessions. Through reflection and discussion (prior to conducting our study), we were aware of our assumptions about recruitment, participants, target audience and the value of the planned app and were able to integrate these into the reflective interpretive work.

Data analysis (Figure 1) revealed varying parental information needs and degrees of healthcare utilisation regarding FA risk prediction and prevention. Parents' information-seeking behaviour was influenced by different reasons. For one, intuition ('gut feeling') strongly motivated parents to address FA issues and seek appropriate healthcare or preventive measures (*'[...] it may sound stupid, but intuitively I googled milk protein allergy at the time [...]'*, P27, female, early 30s). For another, pre-existing risk awareness (*'Because I have many allergies [...]'*, P14, female, late 30s) and occurring symptoms in the child (*'I saw a rash [...] and googled it [...]'*, P06, female, early 40s) influenced the parents' behaviour. Limited competence in finding valuable information was found to be a barrier to prevention and risk prediction of childhood FA (*'[...] the Internet is big and wide'*, P15, female, mid 30s). Parents' information needs ranged from no interest (*'didn't think about it for three seconds'*, P15, female, mid 30s), to a clear desire *'to find out, [...] what you can do as prevention'* (P22, female, late 30s). Paediatricians were considered *'the first point of contact'* (P22, female, late 30s) throughout childhood, although not always viewed as the most relevant or helpful source regarding prevention. Midwives were considered important for information, such as breastfeeding or complementary feeding

Summary

- Parents showed varying awareness and information needs regarding risk prediction and prevention of infant food allergies.
- Parents used social media for information and were open for using digital tools.

(*'The midwife's consultation was definitely more intensive and far-reaching than the pediatrician's consultation'*, P26 female, early 30s). Social media, especially Instagram, played an important role in parents' information sources (*'Instagram, I follow for more information'*, P18, female, mid 30s). Most parents were open to an app for predicting the risk and preventing childhood FA, *'[...] because you always have your cell phone to hand'* (P22, female, late 30s); they expressed only minimal concerns about entering data. They emphasised the need for the app to be scientifically sound and developed by experts.

Our results are consistent with the literature, showing that FA is often a minor concern for parents [9]. Several factors contribute to the low relevance of FA prevention: (1) Parents' knowledge and interest in FA and risk factors is limited. (2) Many parents do not differentiate between intolerance and allergy and often assume that FA will not be a significant burden in later life. (3) Even when parents were aware of childhood FA prevention, they often lacked the competence to find 'good' health information. Although paediatricians were usually the primary source of FA information, participants relied on multiple sources, including midwives and social media. Despite the advantages of a variety of information sources, there is a risk that contradictory or incorrect information will be disseminated, especially on social media. Accordingly, an app for childhood FA prevention and risk prediction would have potential but must address important criteria to be helpful to parents.

To the best of our knowledge, our study is the first to describe parental information needs, information-seeking behaviour and healthcare use focused specifically on childhood FA risk prediction and prevention. We attempted to achieve as much diversity as possible in terms of gender, ethnic and previous experience with FA. However, most parents interviewed, including some with a migration background, were socialised in Western culture and had a high level of education. We acknowledge the potential missed insights of parents with lower education or different cultural backgrounds who might face even more challenges in finding and understanding health information or perceive barriers in accessing healthcare services.

Our study highlights the importance of parental risk perception and perceived action options for successful childhood FA prevention. The results emphasise the need to raise awareness of FA risk prediction and prevention and to support parents in familiarising themselves with FA prevention. Therefore, integrating FA prevention into general child health or disseminating an app focused on FA, like the planned NAMIBIO app, could be helpful.

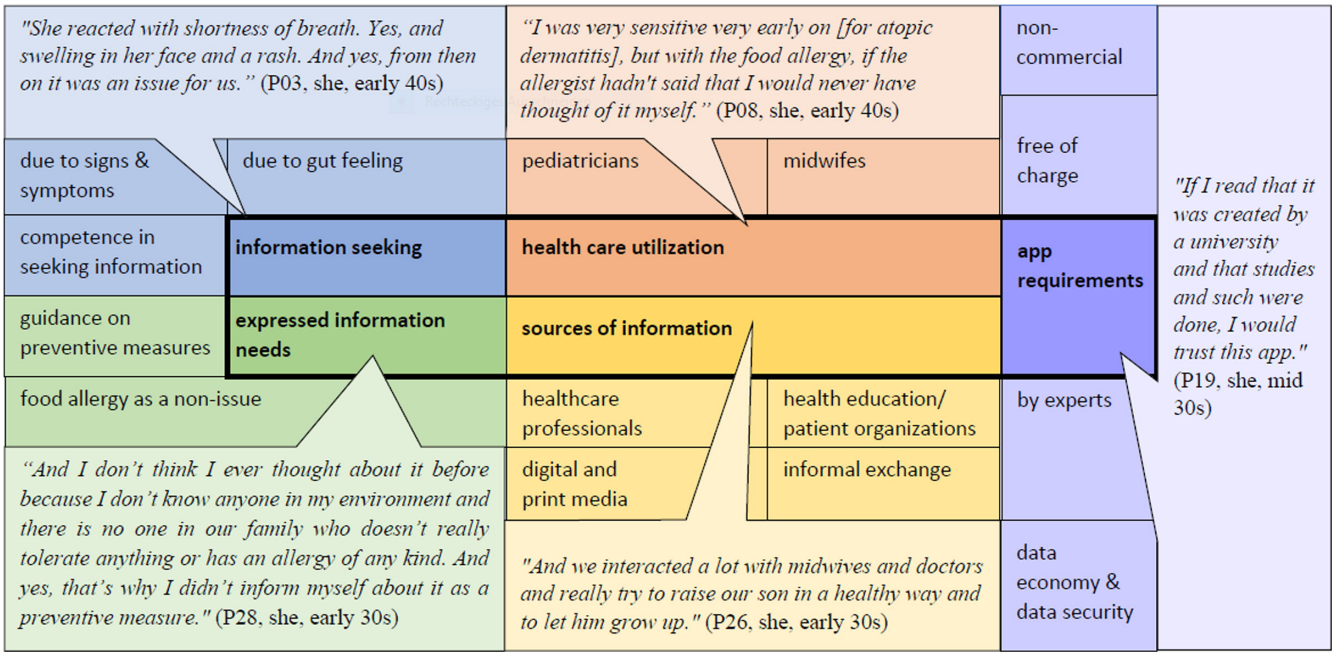

FIGURE 1 | Identified categories (deductive), subcategories (inductive) and one *illustrative citation* for each category.

Author Contributions

Katharina Gerhardinger: conceptualisation, methodology, formal analysis, investigation, data curation, writing – original draft, writing – review and editing, visualisation and validation. **Susanne Brandstetter:** conceptualisation, methodology, resources, writing – review and editing, supervision, project administration and funding acquisition. **Madlen Hörold:** conceptualisation, methodology, formal analysis, investigation, data curation, writing – review and editing and validation. **Magdalena Rohr:** conceptualisation, methodology, formal analysis, investigation and writing – review and editing. **Mara König:** data curation, formal analysis, validation and writing – review and editing. **Christian Apfelbacher:** conceptualisation, methodology, resources, writing – review and editing, supervision, project administration and funding acquisition. All authors read the final version of the manuscript and approved its submission for publication. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

Acknowledgements

We thank all participants for their time and their openness to talk to us. Open Access funding enabled and organized by Projekt DEAL.

Ethics Statement

The study was reviewed and approved by Ethics committee at Otto von Guericke University Magdeburg, Faculty of Medicine (184/21). All participants provided written informed consent prior to the interviews. An independent trusted third party at Otto von Guericke University Magdeburg, Faculty of Medicine, managed and stored the consent forms.

Conflicts of Interest

Christian Apfelbacher was a Grant Holder Scientific Representative of the Core Outcome Measures for Food Allergy Action (COMFA, European COST Action 18227).

Data Availability Statement

Data can be obtained from the corresponding author upon reasonable request.

Transparency Declaration

The lead authors (the manuscript's guarantors) affirm that the manuscript is an honest, accurate and transparent account of the study being reported. No important aspects of the study have been omitted. Discrepancies from the study as have been explained. No generative AI was used to conceive ideas, develop study design, generate data, assist in analysis and present study findings.

References

1. J. M. Devdas, C. Mckie, A. T. Fox, and V. H. Ratageri, "Food Allergy in Children: An Overview," *Indian Journal of Pediatrics* 85, no. 5 (2018): 369–374, https://doi.org/10.1007/s12098-017-2535-6.

2. A. Anagnostou, J. Lieberman, M. Greenhawt, et al., "The Future of Food Allergy: Challenging Existing Paradigms of Clinical Practice," *Allergy* 78, no. 7 (2023): 1847–1865, https://doi.org/10.1111/all.15757.

3. J. Ross, J. Fishman, and J. Wang, "Internet and Food Allergy: What Patients Are Seeking and What They Do With the Information," *The Journal of Allergy and Clinical Immunology. In Practice* 5, no. 2 (2017): 494–495.e1, https://doi.org/10.1016/j.jaip.2016.06.006.

4. Ø. L. Moen, E. Opheim, and A. Trollvik, "Parents Experiences Raising a Child With Food Allergy; A Qualitative Review," *Journal of Pediatric Nursing* 46 (2019): e52–e63.

5. NAMIBIO, "Nahrungsmittelallergie Biomarker Applikation," 2021, https://namibio.de/en/.

6. M. Hörold, C. Apfelbacher, K. Gerhardinger, et al., "Parents' and Health Care Professionals' Perspectives on Prevention and Prediction of Food Allergies in Children: Protocol for a Qualitative Study," *JMIR Research Protocols* 12 (2023): e41436, https://doi.org/10.2196/41436.

7. K. Gerhardinger, S. Brandstetter, M. Hörold, M. Rohr, M. König, and C. J. Apfelbacher, "Additional File to the Research Letter: Parents' Perspectives on Prevention and Risk Prediction of Food Allergies in Children: A Qualitative Study," 2024, https://epub.uni-regensburg.de/59012/.

8. U. Kuckartz, "Qualitative Text Analysis: A Systematic Approach," in *Compendium for Early Career Researchers in Mathematics Education*, eds. G. Kaiser and N. Presmeg (Cham: Springer International Publishing, 2019), 181–197.

9. M. Cashin, J. Wroe, and L. E. Campbell, "What Parents Want to Know in the First Postnatal Year: A Delphi Consensus Study," *Child: Care, Health and Development* 47 (2021): 47–56, https://doi.org/10.1111/cch.12806.