Volume: 5 | Issue: 6 | Nov - Dec 2024 Available Online: www.ijscia.com

DOI: 10.51542/ijscia.v5i6.56

Quality of Life in Children with Food Allergies: A Literature Review

Raisah Mazaya Madarina¹, Azwin Mengindra Putera^{2*}, Deasy Fetarayani³, Meta Herdiana Hanindita²

¹Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

²Department of Child Health, Faculty of Medicine, Universitas Airlangga Dr. Soetomo General Academic Hospital, Surabaya, Indonesia

³Department of Internal Medicine, Faculty of Medicine, Universitas Airlangga Dr. Soetomo General Academic Hospital, Surabaya, Indonesia

E-mail: raisah.mazaya.madarina-2021@fk.unair.ac.id; azwin-m-p@fk.unair.ac.id; deasy-f@fk.unair.ac.id; hanindita.meta@gmail.com

*Corresponding author details: Azwin Mengindra Putera; azwin-m-p@fk.unair.ac.id

ABSTRACT

Background: The quality of life for a patient and their family can be greatly impacted by food allergies. Food allergies can cause a variety of symptoms. Food allergies are linked to a decrease in general quality of life in several areas, such as social, psychological, and academic. **Objective:** To ascertain the quality of life experienced by children with food allergies. **Method:** The literature was examined through a review of journal articles and books sourced from Pubmed, ScienceDirect, and Google Scholar. The following search terms were used: "food allergy," "children," "quality of life," and "food allergy and quality of life". **Result:** The quality of life for children who have food allergies is still negatively impacted. More research is required to determine the factors that contribute to children with food allergies having a reduced quality of life or remaining in a poor group.

Keywords: food allergy; quality of life; children.

INTRODUCTION

Food allergies are a collection of symptoms that come from different organ systems and are caused by the immune system's response to specific food antigens. Even minor exposure to allergenic foods can cause a wide range of clinical symptoms, from serious to potentially fatal. Urticaria, intestinal problems, and respiratory irritation are some of these symptoms [1]. Food allergies are thought to affect up to 10% of people worldwide, making them a serious health concern. Food allergies are becoming more common and more severe, especially in children [2]. Food allergies can significantly affect a patient's and their family's quality of life [3],[4].

According to the World Health Organisation (WHO), quality of life (QOL) is a person's assessment of their place in life, in relation to their objectives, expectations, standards, and worries, as well as the cultural context in which they live. The term "health-related quality of life" refers to the health component of quality of life, which is another definition of quality of life. This factor is typically thought to represent how illness and treatment affect daily functioning and disability. It has also been thought to represent the perceived influence of health on a person's capacity to lead a satisfying life [5].

Food allergies are associated with a decrease in overall quality of life across a range of domains, including academic, social, and psychological aspects [6]. From a psychological perspective, a decrease in quality of life may result from stigmatization, bullying, anxiety, and depression. Food allergies can precipitate stress in children, particularly when there is no adult supervision and they must independently determine which foods are safe to consume [7].

The delivery of medication in the event of unintentional exposure to allergens, such as antihistamines and adrenaline injections, can be one element that lowers the quality of life for people with food allergies. This is because avoiding foods that contain allergens is frequently not an option, leading to unintentional exposure that can result in potentially lethal anaphylactic reactions [8]. Food allergies can present with a wide range of symptoms. Numerous body systems, such as the integumentary, respiratory, digestive, cardiovascular, neurological systems, might be affected by a food allergy. A complicated disease may evolve as a result of the interactions between the different symptoms [9], [10].

Over time, the methods used to treat parents and children with food allergies have changed significantly, and a variety of strategies are now being used to address the difficulties these conditions provide. Additionally, the children's quality of life was not significantly impacted by the outcomes of these interventions [11].

The condition of a child with food allergies has a significant impact on their overall quality of life. Such circumstances will clearly have an adverse effect on the child's overall quality of life, both in terms of their physical health and their social interactions. The objective of this review is to ascertain the quality of life experienced by children with food allergies. Should the quality of life of children with food allergies be determined to be inadequate, it is hoped that this review will serve as a reference for the development of effective strategies for improving the quality of life of children with food allergies.

METHODS

In order to assess the quality of life of children with food allergies, a review was conducted of journal articles and books sourced from Pubmed, ScienceDirect, and Google Scholar. The following keywords were used in the search: "food allergy," "children," "quality of life," and "food allergy and quality of life."

RESULTS AND DISCUSSION

Children with food allergies may experience a negative impact on their quality of life. Some research show that food allergies have a negative influence on children's quality of life, whereas other studies find no impact at all. Children's quality of life was negatively impacted by food allergies, according to research done on children in Saudi Arabia. Neither gender nor age group showed any significant distinctions [12]. Furthermore, additional research has shown a negative impact on children's quality of life. The older children's quality of life findings showed a more negative outcome [13], [14]. Additionally, children who experience more severe allergy reactions often have lower quality of life outcomes [13], [14]. Older kids reported higher levels of stress, according to the FAOLO-PF questionnaire results. This was evident in the domains of Emotional Impact and Food Anxiety [13].

The quality of life is also adversely impacted in children with peanut allergies, especially when it comes to psychological problems. Children with peanut allergies most frequently exhibit annoyance, stress, and worry as emotional reactions. Additionally, some children experience bullying because of their allergies [15], [16], [17], [18]. According to Valero-Moreno et al. (2024), food allergies can also have negative effects on children. Food allergies may also increase the likelihood of bullying or threats. [19]. Other research shows the duration of time it takes to eliminate allergenic foods may have an impact on the quality of life for children with food allergies. This implies that a key component of management is the elimination of allergic foods [14]. Rosser's study found that gender had an impact on children's quality of life as well. Children who are female are more likely to report a lower quality of life [7], [20], [21], [22]. Other research indicates that the quality of life experienced by children is more negatively affected than that experienced by adolescents [23]. A further study was conducted by Miller et al. (2020). According to that study, children's quality of life was significantly better than adolescents' [24].

In another study, there were different results on the quality of life of children with food allergies. A review of studies examining the quality of life of children with food allergies and children with chronic diseases revealed that the quality of life of children with food allergies was better than that of children with chronic diseases. This may be attributed to advancements in the management of food allergies [25]. Based on the findings of a study by Hamada et al. (2021), children in the study population had a good quality of life. The study was conducted on children with egg allergies one year after they completed an oral food challenge [26]. The quality of life of children with food allergies can also be significantly improved after oral immunotherapy for approximately 6 months [7], [27]. In another study, quality of life improved during the administration of oral immunotherapy [28]. Apart from oral immunotherapy, subcutaneous injection immunotherapy also provides better quality of life outcomes one year following immunotherapy administration [7], [29]. Furthermore, oral food challenges have been demonstrated to result in an improvement in the quality of life for children [30].

CONCLUSIONS

The review that has been presented leads to the conclusion that children with food allergies are still having a negative effect on their quality of life. According to the review that has also been conducted, immunotherapy can be administered subcutaneously or orally to enhance the quality of life for kids with food allergies. To find out what makes children with food allergies have a lower quality of life or are still in a poor category, more research needs to be performed.

ACKNOWLEDGEMENT

The author would like to express gratitude to supervisors for their invaluable guidance and direction throughout the preparation of this review. The author would also like to acknowledge and thank all the researchers who have made significant contributions to the literature that the author has reviewed for this literature review section.

REFERENCES

- [1] M. Kostecka *et al.*, "Parental Knowledge about Allergies and Problems with an Elimination Diet in Children Aged 3 to 6 Years," *Children*, vol. 9, no. 11, Nov. 2022, doi: 10.3390/children9111693.
- [2] S. Arasi *et al.*, "Consensus on DEfinition of Food Allergy SEverity (DEFASE): Protocol for a systematic review," *World Allergy Organization*

- *Journal*, vol. 13, no. 12, Dec. 2020, doi: 10.1016/j.waojou.2020.100493.
- [3] C. Caffarelli, D. Di Mauro, C. Mastrorilli, P. Bottau, F. Cipriani, and G. Ricci, "Solid Food Introduction and the Development of Food Allergies," *Nutrients*, vol. 10, no. 11, Nov. 2018, doi: 10.3390/nu10111790.
- [4] R. X. Foong and A. F. Santos, "Biomarkers of diagnosis and resolution of food allergy," *Pediatric Allergy and Immunology*, vol. 32, no. 2, pp. 223–233, Feb. 2021, doi: 10.1111/pai.13389.
- [5] K. Haraldstad *et al.*, "A systematic review of quality of life research in medicine and health sciences," *Quality of Life Research*, vol. 28, no. 10, pp. 2641–2650, Oct. 2019, doi: 10.1007/s11136-019-02214-9.
- [6] A. K. Luke and C. A. Flessner, "Examining Differences in Parent Knowledge about Pediatric Food Allergies," *J Pediatr Psychol*, vol. 45, no. 1, 2020, doi: 10.1093/jpepsy/jsz091.
- [7] A.-E. Drakouli *et al.*, "Food Allergies and Quality of Life among School-Aged Children and Adolescents: A Systematic Review," *Children*, vol. 10, no. 3, p. 433, Feb. 2023, doi: 10.3390/children10030433.
- [8] I. S. Ibrahim *et al.*, "Adaptation, Translation and Validation of the Food Allergy Quality of Life Questionnaire-Parent Form (FAQLQ-PF): The Malay Version," *Children*, vol. 8, no. 11, 2021, doi: 10.3390/children8111050.
- [9] M. De Martinis, M. M. Sirufo, M. Suppa, and L. Ginaldi, "New Perspectives in Food Allergy," *Int J Mol Sci*, vol. 21, no. 4, 2020, doi: 10.3390/ijms21041474.
- [10] C. Lozoya-Ibáñez *et al.*, "Prevalence and clinical features of adverse food reactions in Portuguese adolescents," *World Allergy Organization Journal*, vol. 13, no. 8, Aug. 2020, doi: 10.1016/j.waojou.2020.100453.
- [11] J. Cheon, C. M. Cho, H. J. Kim, and D. H. Kim, "Effectiveness of educational interventions for quality of life of parents and children with food allergy: A systematic review," *Medicine*, vol. 101, no. 36, Sep. 2022, doi: 10.1097/MD.000000000030404.
- [12] Y. H. Qari, A. A. Abu Alnasr, A. M. Bazaid, H. A. AlHarbi, N. ALJahdali, and L. T. Goronfolah, "The impact of childhood food allergy on quality of life of the paediatric population in Jeddah, Saudi Arabia," *Australasian Medical Journal*, vol. 13, no. 6, 2020, doi: 10.35841/1836-1935.13.6.213-220.
- [13] V. Thörnqvist *et al.*, "Health-related quality of life worsens by school age amongst children with food allergy," *Clin Transl Allergy*, vol. 9, no. 1, Feb. 2019, doi: 10.1186/s13601-019-0244-0.

- [14] N. Kılıç, Ş. Kaya, G. Taşçı, F. Özsoy, and M. Kılıç, "Quality of life in children with food allergies, psychiatric symptoms, and caregiving burden of their mothers," *Allergol Immunopathol (Madr)*, vol. 51, no. 5, pp. 48–56, 2023, doi: 10.15586/aei.v51i5.860.
- [15] P. Couratier *et al.*, "Allergy to Peanuts imPacting Emotions and Life (APPEAL): The impact of peanut allergy on children, adolescents, adults and caregivers in France," *Allergy, Asthma and Clinical Immunology*, vol. 16, no. 1, Oct. 2020, doi: 10.1186/s13223-020-00481-7.
- [16] M. Tsoumani *et al.*, "Allergy to Peanuts imPacting Emotions And Life (APPEAL): The impact of peanut allergy on children, teenagers, adults and caregivers in the UK and Ireland," *PLoS One*, vol. 17, no. 2 February, Feb. 2022, doi: 10.1371/journal.pone.0262851.
- [17] M. Walkner, C. Warren, and R. S. Gupta, "Quality of Life in Food Allergy Patients and Their Families," Dec. 01, 2015, *W.B. Saunders*. doi: 10.1016/j.pcl.2015.07.003.
- [18] A. T. Fong, C. H. Katelaris, and B. Wainstein, "Bullying and quality of life in children and adolescents with food allergy," Jul. 01, 2017, *Blackwell Publishing*. doi: 10.1111/jpc.13570.
- [19] S. Valero-Moreno, R. Torres-Llanos, and M. Pérez-Marín, "Impact of Childhood Food Allergy on Quality of Life: A Systematic Review," *Applied Sciences*, vol. 14, no. 23, p. 10989, Nov. 2024, doi: 10.3390/app142310989.
- [20] S. A. Rosser, M. Lloyd, A. Hu, P. Loke, and M. L. K. Tang, "Associations between gender and health-related quality of life in people with IgE-mediated food allergy and their caregivers: A systematic review," Feb. 01, 2024, *John Wiley and Sons Inc.* doi: 10.1111/cea.14450.
- [21] J. L. P. Protudjer *et al.*, "Impaired health-related quality of life in adolescents with allergy to staple foods," *Clin Transl Allergy*, vol. 6, no. 1, 2016, doi: 10.1186/s13601-016-0128-5.
- [22] A. Stensgaard, C. Bindslev-Jensen, D. Nielsen, M. Munch, and A. DunnGalvin, "Quality of life in childhood, adolescence and adult food allergy: Patient and parent perspectives," *Clinical and Experimental Allergy*, vol. 47, no. 4, pp. 530–539, Apr. 2017, doi: 10.1111/cea.12849.
- [23] D. T. I. Nguyen, K. Pitts, K. A. Staggers, and C. M. Davis, "Quality of life is lower in food allergic adolescents compared to young children at a community educational symposium," Dec. 01, 2023, *BioMed Central Ltd.* doi: 10.1186/s13223-023-00853-9.
- [24] J. Miller *et al.*, "Quality of life in food allergic children: Results from 174 quality-of-life patient questionnaires," *Annals of Allergy, Asthma and Immunology*, vol. 124, no. 4, pp. 379–384, Apr. 2020, doi: 10.1016/j.anai.2019.12.021.

- [25] C. Frachette *et al.*, "Health-related quality of life of food-allergic children compared with healthy controls and other diseases," *Pediatric Allergy and Immunology*, vol. 33, no. 1, Jan. 2022, doi: 10.1111/PAI.13663.
- [26] K. Hamada *et al.*, "Factors associated with outcome of egg allergy 1 year after oral food challenge: A good baseline quality of life may be beneficial," *Pediatric Allergy and Immunology*, vol. 32, no. 7, pp. 1490–1496, Oct. 2021, doi: 10.1111/pai.13534.
- [27] N. Epstein-Rigbi, M. R. Goldberg, M. B. Levy, L. Nachshon, and A. Elizur, "Quality of Life of Food-Allergic Patients Before, During, and After Oral Immunotherapy," *Journal of Allergy and Clinical Immunology: In Practice*, vol. 7, no. 2, pp. 429-436.e2, Feb. 2019, doi: 10.1016/j.jaip.2018.06.016.
- [28] N. E. Rigbi, M. R. Goldberg, M. B. Levy, L. Nachshon, K. Golobov, and A. Elizur, "Changes in patient quality of life during oral immunotherapy for food allergy," *Allergy: European Journal of Allergy and Clinical Immunology*, vol. 72, no. 12, pp. 1883–1890, Dec. 2017, doi: 10.1111/all.13211.
- [29] H. Agenäs, A. L. Brorsson, I. Kull, and A. Lindholm-Olinder, "Treatment with pollen allergen immunotherapy improves health-related quality of life in children and adolescents: a three-year follow-up-study," *Allergy, Asthma and Clinical Immunology*, vol. 19, no. 1, Dec. 2023, doi: 10.1186/s13223-023-00756-9.
- [30] S. Cao, M. Borro, S. Alonzi, S. Sindher, K. Nadeau, and R. S. Chinthrajah, "Improvement in Health-Related Quality of Life in Food-Allergic Patients: A Meta-Analysis," *Journal of Allergy and Clinical Immunology: In Practice*, vol. 9, no. 10, pp. 3705–3714, Oct. 2021, doi: 10.1016/j.jaip.2021.05.020.