

Enhancing Health-Related Quality of Life Among Those Living with Food Allergy



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Quality of life (QoL) is defined by the World Health Organization as “the individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.”¹ Health-related quality of life (HRQL) is embedded within QoL and specifically addresses the physical, mental, and social well-being of a patient or caregiver.²

Food allergy affects an estimated 6% to 8% of the population and necessitates substantial dietary and social changes to avoid allergic reactions, including potentially life-threatening ones.³ In this light, it is no surprise that food allergy is associated with low HRQL in both young people^{4,5} and their caregivers^{4,6} and in adults^{4,5} with food allergy. Disease-specific tools, such as those developed with consideration to the burden of food allergy, may glean insight into the impacts of food allergy that cannot be captured in generic QoL questionnaires.²

Oral challenges (OFC) may be appropriate to confirm food allergy diagnosis or the development of tolerance,⁷ whereas oral immunotherapy (OIT) raises the potential for allergen desensitization.⁸ It could also be hypothesized that both OFC and OIT may improve HRQL, regardless of whether either procedure is effective, because there is benefit in having a proper diagnosis, and resulting from efforts to improve tolerance.

In this issue of *Journal of Allergy and Clinical Immunology In Practice*, Cao et al report the results of a meta-analysis on the improvement in HRQL.⁹ Subsequent to a systematic search of

English language studies on food allergy and HRQL, published between 2010 and July 2010, and following widely accepted guidelines for screening titles, abstracts, and full texts, the authors included 13 of the 946 (1.4%) originally identified articles in their meta-analysis. Specific outcomes of interest included an evaluation of HRQL change from baseline to postintervention follow-up in longitudinal studies, and between treatment and placebo groups, in placebo-controlled studies. Of note, included studies had made use of diverse HRQL instruments. Nonetheless, these instruments were all designed to assess the impact of food allergy, on child, adolescent, parent, and adult HRQL, as appropriate for the specific study populations.

The majority of the 6 included studies on OFC provide evidence that OFC is associated, albeit not consistently, with HRQL, at 1- to 6-month follow-up post OFC. Notably, 1 of the included studies points toward improved HRQL at 6 months post OFC for children and adults, irrespective of the OFC outcome. In contrast, among adolescents, HRQL improved with a negative outcome (ie, when food allergy was ruled out) but not a positive outcome (ie, food allergy confirmed). One other included study provided evidence that post-OFC HRQL significantly increases, albeit with a peak at 2 months postchallenge.

Of the 7 studies examining HRQL in association with OIT, and in which follow-up ranged from 1 to 24 months post OIT, OIT was consistently and statistically significantly associated with improved HRQL. Interestingly, in 1 study in which child and parental HRQL were considered, child HRQL improved significantly more than that of the parents, at a median of 10 to 11 weeks after completing OIT. Among studies comparing HRQL in an active OIT group and a placebo group, HRQL was improved significantly more among the former than the latter. In 1 study, sustained improvements in HRQL were reported at 12 months than with 3-month follow-up.

The authors wisely also considered variation in HRQL improvements by the type of instrument. Among both OFC and OIT studies, the greatest improvements were noted using a common instrument, the Food Allergy Quality of Life Questionnaire-Parental Burden (FAQLQ-PB). It is interesting to note that the FAQLQ is the most diverse of the food allergy-specific instruments, and includes the FAQLQ-PB, which is the only validated HRQL instrument intended specifically for parents (caregivers) of children 0 to 12 years old. As with the other FAQLQ instruments, the parent-burden instrument focuses on multiple domains of HRQL.¹⁰

The preceding observation notwithstanding, the interpretation of HRQL literature is challenging in light of diverse HRQL instruments, and even more so with the use of reverse score scales (ie, a lower score represents better HRQL) in some instruments. The article by Cao et al⁹ is an elegant and

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Conflicts of interest: J. L. P. Protudjer is the Section Head of Allied Health for the Canadian Society of Allergy and Clinical Immunology; and sits on the steering committee for Canada’s National Food Allergy Action Plan. E. M. Abrams is the Section Head of Anaphylaxis/Food Allergy for the Canadian Society of Allergy and Clinical Immunology; is an employee of Public Health Agency of Canada (PHAC); and the views expressed are her own and not that of PHAC.

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comprehensive synthesis of the literature on clinical interventions on HRQL among those with food allergy and their caregivers. In this light, both OFC and OIT should be—when appropriate—considered as tools not only to provide critical insight into diagnostics and potential delabeling but also as a way in which to enhance the HRQL for those living with food allergy and for their caregivers.

As the authors described, future research is warranted on the a wider variety of food allergies because those addressed in the included studies were restricted to allergies to common foods, such as milk, eggs, peanuts, and tree nuts. Also worth additional consideration is the potential improvement in HRQL subsequent to OFC or OIT in economically and, or ethnically diverse populations.

REFERENCES

1. World Health Organization. Constitution of the World Health Organisation: Handbook of Basic Documents. Geneva: World Health Organization; 1948.
2. van der Velde JL, Dubois AEJ, Flokstra-de Blok BM. Food allergy and quality of life: what have we learned? *Curr Allergy Asthm Rep* 2013;13:651-61.
3. Sicherer SH, Sampson HA. Food allergy: a review and update on epidemiology, pathogenesis, diagnosis, prevention, and management. *J Allergy Clin Immunol* 2018;141:41-58.
4. Stensgaard A, Bindslev-Jensen C, Nielsen D, Munch M, DunnGalvin A. Quality of life in childhood, adolescence and adult food allergy: patient and parent perspectives. *Clin Exp Allergy* 2017;47:530-9.
5. Saleh-Langenberg J, Goossens NJ, Flokstra-de Blok BM, Kollen BJ, van der Meulen GN, Le TM, et al. Predictors of health-related quality of life of European food-allergic patients. *Allergy* 2015;70:616-24.
6. Protudjer JLP, Jansson SA, Östblom E, Heibert Arnlind M, Bengtsson U, Dahlen S-E, et al. Health-related quality of life in children with objectively-diagnosed staple food allergy assessed with a disease-specific questionnaire. *Acta Paediatr* 2015;104:1047-54.
7. Ito K, Urisu A. Diagnosis of food allergy based on oral food challenge test. *Allergology Int* 2009;58:467-74.
8. Lin C, Lee IT, Sampath V, Dinakar C, DeKruyff RH, Schneider LC, et al. Combining anti-IgE with oral immunotherapy. *Pediatr Allergy Immunol* 2017; 28:619-27.
9. Cao S, Borro M, Alonzi S, Sindher S, Nadeau K, Chinthrajah RS. Improvement in health-related quality of life in food-allergic patients: a meta-analysis. *J Allergy Clin Immunol Pract* 2021;9:3705-14.
10. Flokstra-de Blok BM. Food Allergy Quality of Life Questionnaires (FAQLQ). In: Michalos AC, editor. *Encyclopedia of Quality of Life and Well-Being Research*. Dordrecht, Netherlands: Springer; 2014.