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Stressors of School-age Children With Allergic Diseases: A Qualitative Study

Misa Iio, PhD, RN, PHN a, Mana Hamaguchi, MS, CP 1, Mayumi Nagata, PhD, RN, PHN A, Koichi Yoshida, MD b

- ^a College of Nursing, Kanto-Gakuin University, Yokohama, Kanagawa, Japan
- ^b Division of Allergy, Tokyo Metropolitan Children's Medical Center, Fuchu, Tokyo, Japan

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ABSTRACT

Purpose: Most studies of stress in children with chronic diseases have been geared toward parents and caregivers have not considered allergic diseases together. This study aimed to identify the stressors associated with allergic diseases in Japanese school-age children.

Design and Methods: Stressors associated with allergic diseases of 11 school-age children (seven boys and four girls; age range: 9–12 years) were investigated using semi-structured interviews.

Results: In the qualitative thematic analysis of stressors about allergic diseases, two themes: allergic disease-specific stressors and common stressors in chronic diseases, and 12 categories were identified. A thematic map was applied to four domains of stressor: physiological factors, psychological factors, social factors, and environmental factors.

Conclusions: The results showed that school-age children with allergic diseases have a variety of stressors. Future studies should aim to develop an allergic disease-specific stress management program with school-age children. Practice Implications: In children with allergic diseases, not only is stress management in daily life important, but also stress management for disease-specific matters to control the symptoms and maintain mental health. Stress management should be supported for school-age children with allergic diseases.

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Introduction

The prevalence of pediatric allergic diseases has increased over the last few decades (Asher et al., 2006). In Japan, the prevalence rate of asthma is slightly lower than the prevalence in the United Kingdom, Australia, New Zealand, Canada, and USA (e.g., Fukuoka City, 13%; Tochigi Prefecture, 19%; Ebisawa, Nishima, Ohnishi, & Kondo, 2013). Not only does the prevalence of asthma in Japan seem to be decreasing, the prevalence of atopic dermatitis is also decreasing among school-age children (Ebisawa et al., 2013). However, the estimated food allergy prevalence based on survey data is 5–10% among infants (0–6 years) and 1-2% among school-age children (6-15 years; Ebisawa et al., 2013). Children with allergic diseases often experience complications related to allergic diseases. The onset of allergic diseases relates to the "allergy march," which is defined as the progression of allergic diseases beginning in infancy from food allergies and atopic dermatitis to asthma and rhinitis (Baba & Yamaguchi, 1989). School-age children with allergic diseases often suffer from several allergic diseases concurrently; hence, allergic diseases need to be considered collectively, rather than individually.

As the number of school-age children with allergic diseases is increasing, various considerations are necessary to ensure safe school lives of such children (Ebisawa et al., 2013). School-age children with asthma experience adverse effects in daily life such as in physical education, in dusty environments, when in contact with animals and during out-of-school activities involving overnight stay. Concerns for schoolage children with atopic dermatitis that worsen skin eczema include stimulants, such as perspiration, chlorine in swimming pools, and ultraviolet rays. Furthermore, school-age children with food allergy experience adverse effects in daily life, such as school lunches, relationships with friends, and so on. School-age children with asthma and/or food allergy need reliever drugs for anaphylaxis and asthmatic exacerbation in daily life.

School-age children with chronic diseases experience a time of challenging transitions. Children living with chronic diseases must contend not only with the particular management demands their chronic condition imposes but also the general developmental challenges associated with maturation (Clark et al., 2010). Thus, it is important for schoolage children with allergic diseases to manage the symptoms and behaviors associated with their diseases, as well as managing the stresses of daily life and their diseases.

Stress is considered a causal and aggravating factor in many diseases, including allergic diseases. Allergic symptoms and psychosocial stress influence each other (Lee et al., 2012). Improving the stress tolerance of children with allergic diseases will contribute to better disease

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^{*} Corresponding author at: College of Nursing, Kanto-Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama-city, Kanagawa-pref 236-8503, Japan. *E-mail address*: misaiio@kanto-gakuin.ac.jp (M. lio).

¹ Mana Hamaguchi is a clinical psychologist, now not affiliated with any institution.

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control and improved quality of life (QOL) (Marsac, Funk, & Nelson, 2006). For children with allergic diseases, coping with daily stressors and disease-related stress is important for long-term disease control and management.

Literature Review

A review study indicated that disease-related stressors in children with chronic disease include being confronted with symptoms, taking medication every day, living with restrictions, having to visit doctors, and social consequences (Boekaerts & Röder, 1999). A previous study suggested that stressors of children with diabetes were general diabetes-related stressors (staying well, staying healthy, having diabetes in general, general problems, social problems, hospital problem, peer argument), and specific diabetes-related stressors, such as diet, insulin injections, insulin reactions, daily glucose testing, and finger-prick, hemoglobin A1 test (Band, 1990; Rathner & Zangerle, 1996; Reid, Dubow, & Carey, 1995). Previous research has identified stressors in children with type 1 diabetes included the following categories: people, self, and context (Hema et al., 2009). The category of people included stressors related to people involved in the child's life, and was subdivided into family, friends/peers, and classmates. Stressors associated with the children themselves were grouped in the self-theme, which consisted of personal disappointments, personal failures, physical stressors and being bored (Hema et al., 2009). The context theme included stressors related to external events or challenges in the child's life and was subdivided into school, environmental conditions and chores (Hema et al., 2009).

Similar categories of stressors have been found for children with other chronic diseases, and they may be chronic disease problems that are related to the disease, such as hospital stays, venipuncture, and pain, or common problems that are related to their school, parents, family, and friends (Olson, Johansen, Powers, Pope, & Klein, 1993; Spirito, Stark, Gil, & Tyc, 1995; Spirito, Stark, & Tyc, 1994). Specifically for children with cancer, they have general stressors, such as a stressful or hard situation, and cancer-related stressors including hospital stay, hair loss, getting sick due to medicine, having cancer in general, undergoing bone marrow aspiration or lumbar puncture procedures, and nausea (Bull & Drotar, 1991; Weisz, McCabe, & Dennig, 1994). Gil, Williams, Thompson, and Kinney (1991) reported that children with sickle cell diseases have identified pain awareness as a specific stressor.

A previous study suggested that four stressors for children with asthma were a wheezing episode, academic problems, social isolation, and shortness of breath (Boekaerts & Röder, 1999; Clark et al., 1988). Patients with atopic dermatitis have several disease-associated stressors, some of which include physical discomfort due to itching and altered appearance due to flare-ups (Barilla, Felix, & Jorizzo, 2017). Youth with food allergy may experience psychosocial stressors including limitations in activities, differences from peers, and anxiety (Lebovidge, Strauch, Kalish, & Schneider, 2009). There are few studies on the stressors of children with each type of allergic disease. However, most studies of stress were geared toward parents and caregivers, and the studies did not consider allergic diseases together. In addition, there are few previous studies on the stressors associated with allergic diseases in school-age children.

Study Aim

The aim of this study was to identify child-reported stressors associated with allergic diseases in Japanese school-age children. The findings of this study are important to help healthcare providers provide patient education including stress management and help school-age children with allergic diseases cope with disease-related stressors.

Methods

Study Design

We conducted a qualitative study from April 2015 to March 2016. The data were collected using semi-structured interviews and analyzed by qualitative inductive methods.

Participants

The participants were school-age children with doctor-diagnosed allergic diseases. In Japan, the majority of children have allergic diseases that are mild to moderate in severity, and they visit local pediatric clinics and general hospitals. Most of all children with allergic diseases with high severity visit specialized hospitals such as pediatric hospitals and university hospitals. Therefore, the participants were recruited by the researchers during the children's regularly scheduled visits to a pediatric department at a general hospital with most being characterized as having mild to moderate allergic diseases. The following criteria were required for inclusion in the study: (a) diagnosis of any of the following conditions: atopic dermatitis, asthma, or food allergies by a pediatrician (any severity level), (b) in the age range of 9–12 years, and (c) under treatment with daily drug therapy. Participants were excluded if they had communication disorder.

Data Collection

We used purposive sampling, which consists of information-rich cases that manifest the phenomenon (Patton, 2014). The researcher contacted 21 children and parents who met the inclusion criteria at an outpatient department during the study period, and 11 agreed to participate. Each of the 11 participants was interviewed once for between 25 and 40 min. The interviews were carried out by one researcher who is a nurse specializing in pediatric allergies.

Data were gathered by a semi-structured interview. We prepared an interview guide to gather data that matched the study aim. The interview guide was constructed to prompt responses to commonly occurring situations identified in previous studies on stressors and coping in children with chronic diseases (Hema et al., 2009; Schmidt, Petersen, & Bullinger, 2003). Additional demographic information such as, age at onset of each allergic disease, and therapeutic regimen, was collected on the children. The contents of the interview comprised five situations: 1) stressors with disease treatment and management, such as treatment, hospitalization, examinations, relationships with parents or siblings, 2) stressors with daily life such as diet, play, human relations, study, culture lessons, pet care, outings, relationships with parents or siblings, 3) stressors with school-life such as physical education, study, school lunch, relationships with teachers or classmates, 4) stressors outside the home such as accommodation in school events and culture lessons, family trips, and 5) stressors with their own future. The interview was recorded on digital voice recorder after receiving informed consent.

Data Analysis

All recorded data were transcribed verbatim in Japanese. The analysis was based on thematic analysis (Braun & Clarke, 2006), which identified codes and themes (low subcategories, subcategories, and categories) from the qualitative data. Thematic analysis makes it possible to construct a new theoretical framework and identify common meanings and themes of an existing model. The qualitative data were analyzed in five phases: (1) becoming familiar with the collected data; (2) generating the codes and collating the similar data for each code; (3) naming content-characteristic words and grouping together as categories; (4) exploring the themes and generating a thematic map by four research members who engaged in consensual decision making.

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