



Food Allergies-Updates for Nurses: An Updated Review

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Abstract

Background: Food allergies are a significant public health concern, affecting individuals globally with varying clinical manifestations. These allergies primarily involve immune-mediated responses to specific allergens and are categorized as IgE-mediated, non-IgE-mediated, or mixed reactions. Nurses play a pivotal role in identifying, managing, and educating patients about food allergies.

Aim: This review aims to provide an updated understanding of food allergies, including their pathophysiology, clinical presentation, and management strategies, emphasizing the essential role of nurses in patient care.

Methods: This review consolidates current literature on the epidemiology, immunological mechanisms, and clinical implications of food allergies. It examines specific allergic reactions, including oral allergy syndrome (OAS) and alpha-gal syndrome, and explores strategies for early diagnosis and management. Emphasis is placed on the administration of epinephrine and education regarding anaphylaxis and biphasic reactions.

Results: Food allergies are increasing globally, with significant implications for health systems. Common allergens include peanuts, tree nuts, shellfish, and dairy. Anaphylaxis, the most severe allergic reaction, is often life-threatening and requires prompt intervention. Biphasic anaphylaxis and alpha-gal syndrome are emerging concerns necessitating heightened awareness. Nurses are critical in identifying symptoms, administering epinephrine, and educating patients about preventative measures and emergency care.

Conclusion: With rising global prevalence, food allergies demand comprehensive care strategies. Nurses are uniquely positioned to mitigate risks through early detection, effective intervention, and patient education. Strengthened training and awareness among healthcare providers are essential to improving outcomes.

Keywords: Food allergies, nurses, IgE-mediated reactions, anaphylaxis, oral allergy syndrome, alpha-gal syndrome, epinephrine, patient education.

1. Introduction

Allergic reactions can manifest across multiple systems, including the respiratory, gastrointestinal, cardiovascular, and integumentary systems, with food allergies being more prevalent in early childhood and gradually decreasing with age [1,2]. The primary allergens responsible for triggering allergic responses are shellfish, cow's milk, peanuts, eggs, fish, wheat, soy, sesame, and tree nuts [2]. These reactions are categorized into three distinct types: acute-onset IgE-mediated, delayed-onset mixed IgE and non-IgE-mediated, and cell-mediated responses [1]. Acute IgE-mediated responses are immediate and involve mast cell activation, histamine release, and subsequent inflammatory cascades. Notably, anaphylaxis—a severe allergic response—is predominantly driven by the IgE-mediated pathway [3]. This article examines various types of food allergies, alongside strategies for their treatment and prevention, emphasizing the integration of this knowledge into clinical practice to enable healthcare providers, particularly nurses, to identify at-risk patients,

recognize symptoms and triggers, and deliver appropriate guidance to patients and their families.

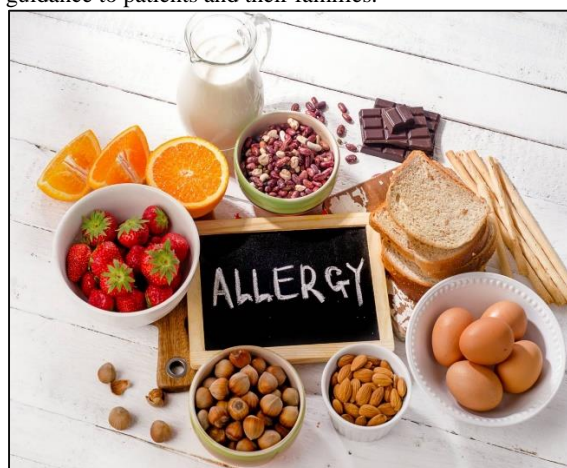


Figure 1: Food Allergy.

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Epidemiology

The global prevalence of food allergies is on the rise, attributed to heightened awareness and improved diagnostic capabilities [1]. Each year, approximately 30,000 food allergy-related emergencies are reported worldwide, leading to 100–200 fatalities [1]. This trend is more pronounced in Westernized countries but is increasingly observed globally. For instance, in India, there is a noted increase in pediatric food allergy cases, potentially due to greater awareness rather than an actual rise in prevalence [1]. Approximately 25% of individuals experience adverse reactions to food, which are distinct from true food allergies and can be mediated by immune or non-immune mechanisms [2]. Examples of non-immune-mediated adverse reactions include lactose intolerance and rhinorrhea triggered by spicy foods [1,3,4].

Types of Allergic Reactions and Pathophysiology

Acute-Onset Reactions: IgE-mediated food allergies, representing true food allergies, are classified as Type I hypersensitivity reactions. These responses are driven by mast cell activation and histamine release, leading to immediate hypersensitivity symptoms.

Delayed-Onset Reactions: Non-IgE-mediated hypersensitivity represents a spectrum of disorders, primarily affecting the gastrointestinal system, and includes delayed hypersensitivity reactions, categorized as Type IV hypersensitivity, which are mediated by T-cells.

Clinical Manifestations and Associated Diagnoses

Allergic reactions present a wide range of symptoms and diagnoses across systems, as detailed below:

- **Histamine-Related Symptoms:** These include food-induced rhinitis, urticaria, angioedema, and immediate gastrointestinal hypersensitivity.
- **Gastrointestinal Disorders:** Conditions include food protein-induced enterocolitis, eosinophilic gastroenteritis, and cow's milk protein-induced iron deficiency anemia.
- **Dermatological Manifestations:** Atopic dermatitis, contact dermatitis, and dermatitis herpetiformis are common presentations.
- **Systemic and Severe Reactions:** Anaphylaxis, food-dependent exercise-induced anaphylaxis, and Stevens-Johnson syndrome/toxic epidermal necrolysis.
- **Other Conditions:** Asthma, celiac disease, and eosinophilic esophagitis.

Delayed hypersensitivity reactions, often beyond the immediate scope of food allergies, involve more complex immunological mechanisms.

Allergen Sensitization

Sensitization to allergens occurs following prior exposure to substances such as pollen, fungi, dust mites, animal dander, insects, foods, food additives, or materials like latex [3,5-7]. Children with comorbid allergic conditions, such as atopic dermatitis or eczema, are at an elevated risk of developing food allergies [1]. Understanding these associations aids clinicians in early identification and intervention. This comprehensive approach to food allergies, encompassing epidemiology, pathophysiology, and clinical management, underscores the importance of tailored strategies for prevention and care in clinical practice.

Pathophysiology of Food Allergies

Food allergies represent an abnormal immune response to allergenic proteins found in specific plant or animal-derived foods [8]. For instance, nuts are highly allergenic and can provoke significant immune reactions even in trace amounts [9]. The exact mechanisms underpinning food allergies remain elusive; however, major risk factors include genetic predisposition, concurrent allergic conditions, prenatal or lactational exposure, and environmental factors [10][11]. Infants and children with compromised skin barriers due to atopic dermatitis are particularly susceptible to food sensitization, which can be exacerbated by disrupted skin integrity, unsuitable moisturizers, and increased allergen exposure [4][8][10][11]. Variations in the gut microbiome and mucosal integrity are also implicated in the pathogenesis of food allergies [8]. Influences such as delivery methods, living environments, dietary habits, antibiotics, and probiotics alter the microbiome and may heighten allergic predisposition [8]. Additionally, low vitamin D levels during infancy have been linked to an increased likelihood of food allergies, although the precise immunological pathways remain unclear [1][12]. Evidence suggests that oral exposure to food proteins may confer a protective effect, whereas cutaneous exposure, especially through disrupted skin barriers, increases sensitization risks [8]. This is particularly relevant in the case of peanut proteins, which can be absorbed through household dust or surfaces, especially in children with atopic dermatitis [8][13].

Oral Allergy Syndrome (OAS):

Oral Allergy Syndrome (OAS), or pollen-food allergy syndrome, manifests in individuals with allergic rhinitis, with as many as 76% exhibiting reactions to one or more foods [8]. OAS arises from cross-reactivity between environmental allergens, such as pollen, and specific foods [8]. For instance, the cantaloupe is linked to Bermuda grass, bananas to ragweed, and pears to birch pollen [8]. Notably, cross-reactivity between shellfish and dust mites or cockroaches can also occur, with shellfish allergies presenting a higher risk of anaphylaxis [8]. Clinical signs of OAS include pruritus in the oral mucosa and potential edema involving the mouth, lips, tongue, or throat [8]. These symptoms typically appear shortly after consuming raw fruits or vegetables and are rarely systemic due to the denaturing effects of gastric acid [8][14]. However, systemic reactions are more likely with peaches, peanuts, tree nuts, or mustard [14]. Symptom management may involve peeling the food or pre-treatment with antihistamines, depending on severity [14].

Alpha-Gal Syndrome:

Alpha-Gal Syndrome is a novel food allergy characterized by a delayed allergic response to red meat and other mammalian products, triggered by a carbohydrate molecule, galactose-alpha-1,3-galactose (alpha-gal) [8]. Sensitization typically occurs following a bite from the Lone Star tick, which is prevalent in regions spanning from Texas and Oklahoma to Maine [8][15]. Symptoms predominantly involve the gastrointestinal system, with abdominal pain, nausea, vomiting, and diarrhea manifesting 2–6 hours post-ingestion of mammalian-derived products [8]. Less commonly, patients may experience urticaria, angioedema, or anaphylaxis [8][16]. The delayed onset of symptoms and predominance of gastrointestinal manifestations complicate diagnosis [16].

Identifying Food Allergies:

Early identification of food allergies is crucial, particularly in pediatric settings. Difficult-to-treat atopic dermatitis in infancy often predicts the development of food allergies, while males appear to be at higher risk, though the reasons remain unclear [1][17]. Misdiagnosis is common due to a lack of standardized diagnostic tests, as blood and skin tests cannot reliably differentiate between sensitization and true allergies [17]. Unlike IgE-mediated food allergies, sensitivities lack objective and reproducible findings, often leading to overdiagnosis [17].

Anaphylaxis: A Critical Concern:

Anaphylaxis is the most severe manifestation of allergic reactions, marked by rapid onset and multisystem involvement, which may result in life-threatening complications [18]. Although most allergic reactions affect a single organ system, anaphylaxis involves a cascade of immunologic events driven by IgE-mediated responses from mast cells and basophils [18][24]. Common triggers include foods (e.g., cow's milk, peanuts, tree nuts, shellfish), medications, and environmental allergens [18]. The clinical presentation of anaphylaxis includes dermatological symptoms such as pruritus, urticaria, and angioedema, along with respiratory signs like dyspnea, wheezing, and hypoxia. Gastrointestinal symptoms, including vomiting, abdominal pain, and diarrhea, are also prevalent and may mimic gastroenteritis [18]. Children under four years are at the highest risk for hospitalization, while the likelihood of fatal outcomes increases with age [18][20]. Diagnosing anaphylaxis requires prompt recognition of multisystem involvement and differentiation from milder allergic reactions [23]. Effective management necessitates immediate intervention to prevent progression to hemodynamic or respiratory compromise, particularly in cases where respiratory symptoms precede cardiovascular collapse [18][19].

When to Seek Emergency Care

Anaphylaxis is a medical emergency that requires immediate attention. Clinicians should be vigilant for its sudden onset, which may manifest as pruritus of the lips, mouth, tongue, or throat, accompanied by facial swelling, urticaria, or hives. Respiratory symptoms such as wheezing, dyspnea, noisy breathing, and a sensation of throat closure or choking are significant indicators. Gastrointestinal manifestations like vomiting and abdominal pain may also occur. Neurological and systemic symptoms, including confusion, behavioral alterations, diaphoresis, tachycardia, dizziness, chest pain, and cyanosis, are critical warning signs. The presentation of these symptoms, individually or in combination, necessitates immediate medical evaluation [20].

Administration of an Epinephrine Auto-injector

The appropriate use of an epinephrine auto-injector is crucial in managing anaphylaxis effectively. The first step is to remove the device from its packaging and take off the safety cap. The injector should be firmly grasped with the needle end pointing downward, ensuring that the thumb, fingers, or hand do not cover the needle end. Administer the injection by pressing the needle end perpendicularly into the outer mid-thigh, either on bare skin or through clothing, holding it in place for 3 to 10 seconds as specified in the device instructions. Once the injection is delivered, withdraw the needle by pulling it straight out and massage the injection site for 10 seconds. After administering epinephrine, the individual must seek

emergency medical care immediately, providing the auto-injector to emergency medical personnel [20].

Cardiovascular and Central Nervous System Involvement

Anaphylaxis may involve the cardiovascular and central nervous systems. Cardiovascular symptoms can include diaphoresis, chest pain, syncope, tachycardia, bradycardia, hypotension, and in severe cases, end-organ dysfunction [18]. Central nervous system manifestations often include confusion, unconsciousness, hypotonia, headaches, incontinence, and seizures. In infants and small children, behavioral changes may also be noted [23]. Severe cases may exhibit multisystem involvement, presenting symptoms such as bronchospasm, laryngeal edema, cyanosis, hypotension, and shock [24].

Clinical Approach to Anaphylaxis

Prompt recognition and treatment of anaphylaxis are critical, as the condition can rapidly progress to life-threatening stages. Clinicians should consider anaphylaxis if a patient presents with an acute onset of symptoms involving two or more organ systems, such as respiratory, dermatological, gastrointestinal, or cardiovascular [18]. A sense of impending doom, reported by the patient, is a significant indicator of rapid deterioration and potential shock [4]. The progression of anaphylaxis is unpredictable, necessitating immediate intervention upon observing multisystem involvement [25].

Biphasic Anaphylaxis

Biphasic anaphylaxis, characterized by a secondary or delayed recurrence of symptoms after initial resolution, is a phenomenon that warrants careful monitoring. This reaction typically arises 4 to 12 hours post-resolution and can persist for over 70 hours in some cases [22]. While its pathophysiology is not fully understood, awareness is essential for effective management. Respiratory and gastrointestinal symptoms are generally the first to reappear, followed by cardiovascular manifestations [25]. Patients with a history of anaphylaxis should be informed about the risk of biphasic reactions and advised to seek medical care immediately following the administration of epinephrine, even if initial symptoms resolve. Comprehensive patient education can ensure preparedness for potential secondary reactions and improve outcomes.

Treatment

The primary treatment for anaphylaxis is intramuscular (IM) administration of epinephrine, which can be delivered via an autoinjector or syringe and needle [20]. The epinephrine dose is calculated based on weight, with a maximum single dose of 0.5 mg. If symptoms do not stabilize or improve, a second dose may be administered 5 to 15 minutes after the initial dose [22]. Infants weighing less than 10 kg should receive 0.01 mg/kg, while children weighing between 10 and 30 kg require 0.15 mg, and those weighing over 30 kg should be given 0.3 mg [22]. For doses prepared using epinephrine vials, the maximum recommended dose remains 0.5 mg [22]. Autoinjectors are preloaded with doses of 0.1 mg, 0.15 mg, and 0.3 mg for ease of use. Despite the timely administration of epinephrine, fatalities can occur due to the unpredictable nature of anaphylaxis and the risk of biphasic reactions, emphasizing the necessity of immediate emergency care and the potential need for additional doses [19, 22, 25]. Adjunctive medications may complement epinephrine in managing anaphylaxis. These include H1 antihistamines (e.g., diphenhydramine), H2 antihistamines (e.g.,

famotidine), bronchodilators (e.g., albuterol), and glucocorticoids (e.g., methylprednisolone). However, these therapies should not be used as the initial or sole treatment, as they do not address life-threatening symptoms such as respiratory obstruction, hypotension, or shock [22].

Prevention

Environmental Control

Avoidance of allergenic foods is the cornerstone of managing food allergies. Careful examination of prepackaged food labels is essential to identify and avoid allergenic ingredients. The Food Allergy Labeling and Consumer Protection Act of 2004 (FALCPA) mandates that manufacturers of packaged foods in the United States clearly label the most common food allergens [26, 27]. Additionally, precautionary labels are included on products processed in facilities handling high-allergen foods to warn consumers of potential cross-contamination risks. Individuals with allergies should avoid consuming products with precautionary labels to mitigate the risk of reactions. However, FALCPA's labeling requirements do not extend to products regulated by the U.S. Department of Agriculture or the Alcohol and Tobacco Tax and Trade Bureau [27]. Despite these regulations, unintentional exposure to allergens remains a concern, underscoring the need for vigilance.

Food Introduction

Introducing allergenic foods early in infancy may reduce the likelihood of developing food allergies. However, the relationship between breastfeeding and the risk or protection against food allergies remains inconclusive [28, 29]. Current evidence does not support the need for breastfeeding mothers to adopt elimination diets to prevent allergies in their infants [8]. Formulas based on partially or extensively hydrolyzed proteins or free amino acids may offer advantages over cow's milk formulas in preventing allergies [28]. Although no definitive studies have compared breastfeeding and formula feeding with the timing of allergenic food introduction, the Enquiring About Tolerance (EAT) trial explored the introduction of allergenic foods at three months of age in exclusively breastfed infants. However, the findings did not demonstrate a statistically significant reduction in food allergies [30].

Guidelines for Food Introduction

The American Academy of Pediatrics (AAP) recommends introducing allergenic foods at approximately six months of age [11]. Similarly, the American Academy of Allergy, Asthma, and Immunology (AAAAI) and the Canadian Paediatric Society (CPS) advise introducing allergenic solid foods between four and six months, with regular consumption thereafter. However, evidence is insufficient to define precise doses or frequencies [31]. The National Institute of Allergy and Infectious Diseases (NIAID) offers specific recommendations for introducing allergenic foods, including assessing infants' readiness with non-allergenic foods prior to introducing peanuts or other allergens [31]. Maintaining a food diary of newly introduced foods can help parents monitor their child's response and facilitate discussions with healthcare providers [32].

Practical Interventions:

Infants with a familial predisposition to atopic dermatitis may benefit from hypoallergenic and sensitive-skin moisturizers, as early application (before one month of age) has shown potential in preventing allergen

sensitization [11]. However, Perkin et al. [10] reported that frequent use of moisturizers in infants, regardless of atopic dermatitis status, correlated with an increased incidence of food allergies. The authors hypothesize that the moisturizer may facilitate allergen exposure by trapping allergenic particles from the caregiver's hands, emphasizing the importance of rigorous handwashing and the use of trilipid skin barrier creams before moisturizing [10].

Peanut Feeding Guidance

Peanut introduction strategies are crucial for allergy prevention. Peanut butter, ground peanuts, peanut flour, or peanut-based snacks such as Bamba are common options for delivering approximately 2 grams of peanut protein per serving. For instance, 9–10 grams (about 2 teaspoons) of peanut butter or 8 grams of ground peanuts provide the target protein amount. For older children, Bamba snacks (17 grams or two-thirds of a 28-gram bag) serve as an effective alternative. Peanut-based foods can be incorporated into infant diets by blending them with warm water, breast milk, or infant formula to achieve a smooth texture. These mixtures can also be combined with pureed fruits, vegetables, yogurt, or mashed potatoes. Bamba sticks, which were used in the Learning Early About Peanut Allergy (LEAP) trial, offer a standardized peanut protein content and demonstrate efficacy and safety. Alternatives with comparable peanut protein content can also be utilized [13]. Introducing allergenic foods, such as peanuts, eggs, and cow's milk, between 4 and 6 months of age may decrease the likelihood of food sensitivities. Research shows that peanut allergies are less prevalent in regions where early peanut exposure is common and more frequent in regions practicing delayed introduction. Consistent exposure to allergenic foods in tolerant infants is essential for maintaining tolerance [11].

Allergy Testing

Testing for food allergies requires precision to avoid unwarranted dietary restrictions, heightened caregiver anxiety, and unnecessary delays in food introduction. Severe atopic dermatitis, egg allergies, or both necessitate medical evaluation for peanut allergies [11]. While oral food challenges (OFCs) remain the gold standard, their clinical application is limited due to the resource-intensive nature of the procedure and the associated risk of severe allergic reactions. Consequently, OFCs are often reserved for specialist settings equipped to manage anaphylaxis [13,34]. Atopy patch testing (APT) serves as a less invasive diagnostic tool, particularly effective for late-phase allergic reactions in children under two years of age [33]. Serum immunoglobulin E (IgE) testing, although widely utilized, presents challenges in interpretation due to low specificity, variable sensitivity, and a high likelihood of false positives. Test results must be contextualized for individual patients, and elevated IgE levels do not always signify a clinically significant food allergy [13]. Skin prick tests (SPTs) are similarly nuanced, with accuracy influenced by patient age, technique, and food type. For instance, non-IgE-mediated cow's milk allergies predominantly occur in children younger than two years. Proper expertise is critical for the accurate application and interpretation of both IgE and SPT results [34].

Peanut Introduction Protocol

Infant peanut introduction protocols vary based on eczema severity or existing food allergies. Infants without eczema or any food allergy, comprising

approximately 87% of cases, can safely introduce peanuts at home around six months of age in alignment with family preferences and cultural practices. Infants with mild to moderate eczema (12% of cases) are similarly recommended to introduce peanuts at home at six months, while those with severe eczema or egg allergies (0.9% of cases) should consult a specialist. Testing serum IgE levels and measuring peanut skin prick test diameters help assess allergy risk. For moderate or high-risk cases, specialist supervision or referral is recommended [11].

Commercially available alpha-gal serum IgE testing is a valuable diagnostic tool for assessing allergies to mammalian products. Diagnosing meat allergies is crucial, as these can mimic gastrointestinal disorders and demonstrate cross-reactivity with gelatin. While alpha-gal testing does not predict the severity of allergic reactions, it is reliable for confirming diagnoses when positive blood test results align with delayed clinical manifestations, typically appearing more than three hours post-exposure [34,35]. Oral food challenges (OFCs) play a critical role in identifying causative allergens, particularly in cases where skin prick tests (SPTs) and serum IgE tests yield inconsistent results with the patient's clinical history or when dietary restrictions are based on suspected but unconfirmed allergies. However, OFCs pose significant risks, including anaphylaxis, necessitating their conduction in facilities equipped with intravenous access, emergency medications, and constant physician supervision. Emergency response plans and immediate availability of appropriate medication doses are essential prior to initiating an OFC [36]. Protocols for OFCs vary; one approach involves administering food protein in increments ranging from 0.06 g/kg to 0.6 g/kg in three equal doses every 15 minutes, with the initial dose not exceeding 10 grams of food or 3 grams of pure protein. Patients undergo observation for 2-3 hours following each dose and an additional 2-4 hours after consuming a full serving. In cases of prior severe reactions, extended monitoring of 2-3 hours between doses is required. Specialist input is indispensable for post-OFC guidance [36].

Treatment Approaches

The primary strategy for managing food allergies is strict avoidance of allergens. For a subset of patients, oral allergen immunotherapy or desensitization may temporarily elevate the reaction threshold. This therapy is recommended only for children and limited to allergens such as eggs, cow's milk, and peanuts. It requires continuous exposure to the allergen but carries risks of anaphylaxis or localized reactions. However, the ideal frequency or duration of treatment for sustained desensitization remains unclear [28,29,37]. Emerging studies suggest omalizumab as a potential treatment for individuals experiencing severe accidental allergen exposure, either as monotherapy or in conjunction with oral immunotherapy, though it is not yet approved for food allergy treatment. Alpha-gal syndrome management relies on strict dietary avoidance, which is often complicated by inadequate labeling and the widespread presence of gelatin in food and healthcare products [16,35,37].

Nursing Implications

Nurses are uniquely positioned to improve health outcomes related to food allergies. They can play a pivotal role in identifying at-risk infants and children and providing families with accurate guidance based on evolving evidence and recommendations. Nurses must remain informed about current guidelines from

authoritative organizations such as the American Academy of Pediatrics (AAP) and the American Academy of Allergy, Asthma, and Immunology (AAAAI) to offer evidence-based care. The shift from avoidance to early food introduction exemplifies how quickly guidelines can change and underscores the need for clear communication to families navigating these updates. Comprehensive knowledge of food allergy mechanisms, sensitization pathways, and desensitization strategies enables nurses to provide timely referrals for specialized testing and treatment. Additionally, awareness of oral allergy syndrome (OAS) signs, symptoms, and pathophysiology is critical for intervening effectively and preventing life-threatening scenarios. Diagnosing food allergies is often challenging due to vague symptoms that may not be immediately linked to exposure, as highlighted in the study case. The emerging link between tick bites and mammalian product allergies is a relatively new area of study and may not be well-known among patients, families, or healthcare providers. Nurses can bridge this gap by incorporating food allergy education into their practice, enabling the identification of exposure risks, symptoms, and potential triggers to improve patient outcomes.

Conclusion:

Food allergies represent a growing global health challenge, necessitating a multifaceted approach for effective management. These allergic reactions range from mild to life-threatening, with IgE-mediated responses, such as anaphylaxis, posing the greatest risks. Nurses are instrumental in identifying, managing, and preventing food allergies through their clinical expertise and patient-centered care. Anaphylaxis requires immediate recognition and intervention. The administration of epinephrine remains the cornerstone of treatment, underscoring the need for nurses to be well-versed in its proper use. Education about the signs of biphasic anaphylaxis is equally crucial, as delayed reactions may occur hours after the initial episode, increasing the potential for complications. The emergence of alpha-gal syndrome further highlights the dynamic nature of food allergies, necessitating continuous updates to nursing practices to address novel challenges. Early diagnosis is pivotal in mitigating the impact of food allergies. Nurses can utilize their frontline roles to identify high-risk individuals, particularly pediatric patients and those with atopic dermatitis. Misdiagnosis remains a challenge due to the limitations of current diagnostic tools. Therefore, integrating evidence-based practices into clinical care is essential to distinguish between true allergies and other adverse reactions. Beyond clinical care, nurses have a critical role in patient education. Empowering patients and their families with knowledge about allergen avoidance, symptom recognition, and the use of epinephrine auto-injectors can significantly reduce emergency visits and improve long-term outcomes. Advocacy for public awareness campaigns and standardized protocols within healthcare facilities can further enhance the management of food allergies. In conclusion, food allergies demand a proactive, informed, and empathetic approach from healthcare providers. Nurses, as vital members of the care team, must be equipped with the latest knowledge and skills to address this growing concern. Strengthening education and interdisciplinary collaboration are essential to advancing care, reducing risks, and improving the quality of life for individuals living with food allergies.

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