

# Evaluation on Food Allergy in Young Females in the Age Group of 18-25 Years. A Study from Tamilnadu, India.

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**Abstract:-** The development of allergies to foods, one of the most common forms of immune-mediated adverse food reactions, is characterized by the presence of IgE. Inflammation that is triggered by cell components and brought on by T lymphocytes and eosinophils may accompany it. Food allergy study was carried out at Sree Ramakrishna medical college of naturopathy and yogic sciences and hospital in Kulasekharam, Tamil Nadu, India. Females between the ages of 18 to 25 are participating in the study. After the purpose of the study was described, verbal consent was obtained. 30 people answered this questionnaire. The survey consists of thirty questions. The questionnaire parameters covered the following topics anxiety, skin diseases, facial hygiene, and digestive issues. Female participants who were unwilling or uncooperative were not allowed to continue with the study. Food allergies affect most women. They do not eat a healthy, balanced diet. The level of knowledge regarding the amount of food and water consumed is not typical. Thus, there is a greater need to educate women about the need to maintain excellent hygiene, eating a balanced diet, and drinking enough water. Future health care initiatives should focus on these areas to enhance the general health and well-being of young women.

**Keywords:-** Stress, Skin Infection, Face Hygiene, Food Allergy.

## I. INTRODUCTION

The most common kind of immune-mediated adverse food reactions are type I reactions, and they are always typified by the production of IgE against food allergens. Inflammation may accompany it, caused by T cells and eosinophils and triggered by cellular components. Though it is tempting to think that type II or type III hypersensitivity could result in negative reactions caused by food antigen-

specific IgG. Disorders like celiac disease are linked to type IV hypersensitivity, which primarily includes food antigen-specific T-cell responses and can harm the gut mucosa. The hallmark of celiac disease is an autoimmune component combined with a hypersensitivity reaction to the wheat gluten fraction, which includes acid- and alkali-soluble glutenins and alcohol-soluble gliadins. Food proteins may potentially be a factor in type IV hypersensitivity reactions that cause enterocolitis. Food proteins may potentially be a factor in type IV hypersensitivity reactions that cause enterocolitis. IgE-associated food allergies are frequently triggered by milk, eggs, wheat, peanuts, almonds, sesame, fish, fruits, and vegetables. While allergies to fish, peanuts, and tree nuts sometimes last a lifetime, allergies to foods like milk, eggs, and wheat are typically outgrown.

## II. PATHOPHYSIOLOGY

IgE cross-links when it interacts with dietary antigens and attaches to mast cells and basophils through the high-affinity receptor. When these cells are activated, granules containing preformed inflammatory mediators, like histamine, are released. Additionally, inflammatory mediators, proteases, inflammatory cytokines, and chemotactic molecules are synthesized and released from scratch. An acute allergic reaction is characterized by the activation of mast cells and basophils within minutes of IgE cross-linking symptoms manifest immediately after allergen exposure. Food allergens can cause symptoms to appear right where they come into contact with the body through the mouth, esophagus, intestine, or other organs, because they enter the bloodstream through the gastrointestinal tract. When allergens that have the ability to cross-link IgE attached to effector cells breach the mucosal barrier and enter the bloodstream. Reaction to allergens can also impact the neurological and circulatory systems. The amount of allergen swallowed, its stability against digestion, and the permeability of the epithelial barrier are some of the factors

that affect the type and severity of reactions. An acute allergic reaction might cause severe inflammation that may be fatal. Anaphylactic shock and vascular collapse may result from the circulation release of vasoactive mediators. The organ systems impacted by IgE-mediated mast cell and basophil degranulation, the clinical features of gastrointestinal food allergies, and the clinical manifestations of food allergies. There are two types of late-phase allergic reactions that can happen following allergy interaction, in addition to the initial reaction. A number of hours following the initial reaction and allergen exposure, basophils and eosinophils proliferate. This influx appears to be related to the granulocyte-macrophage colony-stimulating factor and is sensitive to steroids. In patients with oral allergy syndrome, the immediate- and delayed-type allergic inflammation that results from an IgE-associated food allergy has been thoroughly researched. Sensitization to respiratory allergens that physically resemble food allergens causes oral allergy syndrome by inciting a cross-reactive immune response. Sensitization to the main allergen in birch pollen leads to the development of the most prevalent type of oral allergy syndrome. Allergens found in plant-derived foods including apples, almonds, carrots, and celery cause cross-reactions with the immune system. IgE-mediated mast cell degranulation results in local allergy symptoms of the immediate kind, including lip or tongue swelling and itching. Anaphylactic shock does not happen because plant food allergens linked to birch pollen are digested by the gastrointestinal tract; as a result, systemic reactions only happen in rare circumstances, such as after consuming significant amounts of the allergens during exercise. Similarly, cooking breaks down IgEs but preserves peptides that T lymphocytes that are specific to a given allergen may identify. Therefore, by activating allergen-specific T cells through IgE-independent mechanisms, the ingestion of plant food allergens related to birch pollen might trigger late-phase and chronic allergic

inflammation in sensitized patients, leading to illnesses such as atopic dermatitis.

**III. MATERIALS AND METHOD**

This study was carried out at Sree Ramakrishna medical college of naturopathy and yogic sciences and hospital in kulasekharam, Tamil Nadu, India, females between the ages of 18 to 25 are participating in the study. After outlining the goal of the study, verbal consent was obtained. 30 respondents filled out this survey. The survey consists of 30 questions. The following conditions were included in the questionnaire's parameters: medication, anxiousness, digestive issues, skin infections, facial cleanliness, and any infections. Female participants who were unwilling or uncooperative were not allowed to continue with the study.

**IV. RESULT**

The age range of the female respondents was 18 to 25. There were 30 women in total. Table 1 shows that 60% of complaints are related to skin irritation, while 40% do not report any such complaints. 26.66% report having wheezing, whereas 73.34% report not having the symptom. Swelling in the neck, face, mouth, or other body regions 43.33% of people and 56.67% of people do not have this symptom. 30% of complaints included respiratory difficulties, whereas 70% did not. When skin itches, 63.33% of it goes red, while 36.67% of it does not. 30% report being constipated and 70% are not constipated. 30% of people have no temperature during an allergy, and 70% have a fever. Intake of eggs on a daily basis is 26.66%, whereas 73.34% do not intake of eggs on a daily basis. Skin dryness frequently 43.33% and lack of this symptom 56.67%. 20% of people have a balanced diet, whereas 80% do not have a balanced diet.

Table 1 Food Allergy in Young Females among the Age 18-25

S.NO	CONTENT	YES (%)	NO (%)
1	Complaint of itching sensation on the skin	60%	40%
2	Have wheezing complaint	26.66%	73.34%
3	Swelling around the mount, face, throat or other parts of body.	43.33%	56.67%
4	Complaint of breathing difficulty	30%	70%
5	Skin turns red during itching	63.33%	36.67%
6	Have constipation	30%	70%
7	Fever during allergy	70%	30%
8	Intake eggs daily	26.66%	73.34%
9	Skin dry very often	43.33%	56.67%
10	Having balanced diet	20%	80%
11	Abdominal pain after intaking the food	53.33%	46.67%
12	Complaint of nausea or vomiting	53.33%	46.67%
13	Consume milk or milk products daily	50%	50%
14	Habit of non veg regularly	40%	60%
15	Have Diarrhoea	33.33%	66.67%
16	Medications during allergy	50%	50%
17	Allergy due to medications	16.66%	83.34%
18	Habit of smoke	6.66%	93.34%
19	Swelling or urticaria in the ears	26.66%	73.34%
20	Symptom be in longer duration	50%	50%

21	Have full body swelling	16.66%	83.34%
22	Painful in the swollen area	40%	60%
23	Have gastric complaint	60%	40%
24	Have the symptom of hypothyroidism	10%	90%
25	Diagnosed with kidney disease	10%	90%
26	Have any skin disease	36.66%	63.34%
27	Intake of junk food	50%	50%
28	Have citrus fruits allergy	10%	90%
29	White patches in the body	30%	70%
30	Intake 2 -3 litre of water per day	53.33%	46.67%

53.33% of people with abdominal pain and 46.67% do not have this symptom. 53.33% of complaints were about nausea or vomiting, whilst 46.67% did not report any of these symptoms. 50% consume milk or milk products; 50% do not consume milk or milk products. 40% of people have a regular non-vegetarian habit, whereas 60% do not. 33.33% of people have diarrhea, whilst 66.67% do not have this symptom. 50% of allergic reactions are treated with medication, and 50% do not. Medication-induced allergy 16.66%. Smoking habit 6.66% and 93.34% do not have this habit. Ear swelling or urticaria is 26.66% of cases, while 73.34% do not have this symptom. 50% have the symptoms of longer duration, and 50% do not have the symptoms of longer duration. 16.66% of people report having full body edema, whereas 83.34% report no pain. 40% are in pain in the swollen area, and 60% do not experience this pain. 60% of people with stomach complaints and 40% without have this symptom. 10% of the population suffer hypothyroidism symptoms, while 90% do not. 10% of cases of renal illness were diagnosed, whereas 90% not diagnosed with kidney disease. 36.66% of people have skin diseases, while 63.34% do not have this symptom. 50% of people consume junk food, and the other 50% do not consume junk food. 10% are allergic to citrus fruits, and 90% do not have this symptom. White patches in the body 30% and 70% do not have these symptoms. 53.33% of people drink 3 to 4 liters of water a day, whereas 46.67% of people do not.

## V. DISCUSSION

60% of complaints are primarily about itchy skin. Only 26.66% of females report having wheezing. Around the mouth, face, throat, or other body areas, 43.33% of people experience swelling. A small percentage of 30% report having trouble breathing. While itching, 63.33% of the skin gets red. Having fever during an allergy is 70% and constipation is 30% more common. 43.33% also frequently experience dry skin. An imbalanced diet is consumed by 80% of females. Having nausea or vomiting 53.33% and abdominal discomfort 53.33% after eating are the most common complaints. 50% of the daily intake should come from milk or milk products. 60% do not routinely consume non-vegetarian food, the majority are vegetarian. 50% of allergy sufferers use medication. 50% have the symptoms of longer duration. 40% of people report having pain in the swollen area. 36.66% more people have skin illness. 50% of the participants in this study consume junk food. 53.33% of them do not drink 3 to 4 liters of water a day.

## VI. CONCLUSION

It has been discovered that food allergies affect most women. They do not eat a healthy, balanced diet. The level of knowledge regarding the amount of food and water consumed is not typical. Thus, there is a greater need to educate women about the need to maintain excellent hygiene, eating a balanced diet, and drinking enough water. Future healthcare initiatives should focus on these areas to enhance the general health and well-being of young women.

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