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### THE IMPACT OF THE RISKS OF EXCESSIVE USE OF ALLERGY MEDICATIONS ON HUMAN HEALTH

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**Abstract:** *The aim of the current study is, what is the meaning of allergy, what are the reasons for the widespread use of allergy medications on human health, what are the side effects of excessive use of allergy medications on human health? What is the diagnosis that works for people who have allergies? What are the methods of preventing allergies for sensitive people? What are the treatments used for those who have allergies, the questionnaire was created electronically via the Google Drive program, and then it was distributed via mobile phone on the social networking program (WhatsApp). Use of email by participants to respond to the questionnaire. 600 questionnaires were distributed to residents of the city of Mecca from the age of 25 to 60 years (the target group), and only 550 questionnaires were received on the researcher's e-mail.*

**Keywords:** *impact, risk, allergy, excessive use, medication, human health.*

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**1-INTRODUCTION:**

An allergy is determined as a hypersensitivity reaction give rise to an immunological reply to a particular antigen, recognized, as an allergen. Allergens act on inherent immune cells. Repeated connect with an allergen triggers the activation of mast cells and basophils and the releasing of allergic moderator, bring in symptoms ranging from sneezing and itchy rashes to sharpe shortness of breath and anaphylaxis<sup>(1-3)</sup>. Currently, the list of allergic illness put out by the WHO contains asthma, rhinitis, conjunctivitis, rhinosinusitis, anaphylaxis, atopic eczema, hives, and angioedema, as well as secondary reactions caused by medications, foods, or insects<sup>(4)</sup>. Today, approximately 1 billion people worldwide suffer from allergies, and these numbers are estimated to rise to 4 billion in the next 30–40 years<sup>(1)</sup>. In recent years, the prevalence of allergic diseases has grown greatly, to the point that 30–40% of the world's population now pain from one or more allergic illness. It is useful to note that these diseases impact all age groups, but they are more frequently reported in childhood<sup>(5)</sup>. While no defined danger factors have been determined, it is possible that environ Mental factors, such as cigarette smoking, air pollution, and exposure to allergens demonstrate the observed changes in the prevalence of allergic diseases<sup>(6)</sup>. A common explanation for the increased prevalence of allergic illness is the “hygiene hypothesis”, first suggest in 1989 by Strachan<sup>(7)</sup>, in which it is stated that a lack of exposure in childhood to infectious agents, symbiotic microorganisms, and parasites increases the child's susceptibility to these diseases later in life<sup>(6)</sup>. Decreased microbial exposure due to improved hygiene, changes in diet, or raise use of antibiotics may be defined of a compound prevalence of allergies<sup>(7-9)</sup>. Additionally, there is a lot of proof propose that living in rural areas in childhood has a protective effect against allergic disease, such as atopy, allergic rhinitis, and asthma<sup>(10,11)</sup>. This may be linked to environment-derived factors, such as contact with bacterial endotoxins<sup>(12)</sup>, connect with animals<sup>(13)</sup>, or intake of raw or lightly pro cessed milk<sup>(13,14)</sup>. In recent decades, the migration from traditional farming to the urban environment, leap in processed food intake, shortage connect with animals, and excessive

Hygiene has been united to the replicated in the happening of allergic diseases<sup>(15,16)</sup>. These are unusual reactions of one body rather than another to certain substances. The allergen may be the body's facing with it for the first time, which increased its sensitivity so that it interacts strongly against it. It is sometimes fatal in a second reaction in the future, as in medicine allergies such as penicillin allergies that require strict prevention. The doctor knows the patient verbally before writing his prescription, and in the event that he faints as a outcome of an accident, for example, a card that he always carries on his chest informs him instead. There is a body known as hypersensitivity (and this is often hereditary: an allergic body) that develops its sensitivity and grow up its reaction whenever it encounters an irritant, such as an asthma allergy to mites or pollens, or an eczema allergy, which gradually replicated whenever the skin is exposed to an irritant such as cement or soap. In most cases, the reaction is through antibodies called (in English: Immunoglobuline E) (IgE) (immunoglobulin E) produced when the body senses the presence of hurtful particles, then (immunoglobulin E) encourage cells throughout the body to secrete chemicals such as histamine. It replicated an immune reaction that may show in more than one form<sup>(17)</sup>. danger factors can be classified into two major categories, host-related factors and environmental factors. Host-related factors include genetics, sex, race, and age, with genetics being the most familiar. Environmental factors include four master factors: exposure to certain infectious illness during early childhood, environmental pollution, allergy levels, and dietary changes. However, there are waving of an reproduce incidence of allergic reactions that cannot be explained by genetic or environmental factors. Exposure to environmental triggers in allergy-prone individuals is a major trigger of airway inflammation, a hallmark in people with asthma. Effective management of allergic diseases rely on the ability to make an accurate diagnosis<sup>(18)</sup>. Allergy testing can help confirm or rule out allergies<sup>(19)</sup>. Proper diagnosis, counseling, and allergen prevent tips based on allergy test consequence minimize the incidence of symptoms and the need for medications, and improve quality of life. To value the

presence of allergen-specific IgE antibodies, two different ways can be used: skin prick test and blood allergy test. Both paths are recommended and have similar diagnostic value <sup>(19)(20)</sup>. Eating different foods during pregnancy has been related to eczema. They include celery, citrus fruits, peppers, ghee and vegetable oils. High intake of the antioxidants zinc and selenium during pregnancy may help prevent allergies <sup>(21)</sup>. This is associated with a decrease risk of childhood asthma and eczema. Probiotic supplements taken during pregnancy or breastfeeding may help block atopic dermatitis. After birth, early introduction of solid food and high variety before the 17th week may grow the baby's risk of developing allergies. Studies show that introducing solid foods and avoiding highly allergenic foods such as peanuts during the first year does not help deny allergies <sup>(22)(23)</sup>. Many medicines are used to stop the secretion of inflammatory mediators, or to block the activation of mast cells and the release of inflammatory mediators from mast cell granules. These medications include antihistamines, epinephrine, mast cell stabilizers, and antileukotriene agents, which are familiar drugs for allergic illness. Anticholinergics and decongestants are also used. Treatment with epinephrine is life-saving in case of anaphylaxis <sup>(24)</sup>. Allergen immunotherapy is useful in cases of environmental allergies, allergies to insect bites, and asthma <sup>(25)</sup>. Its advantage in food allergies is unclear and therefore it is not recommended. Immunotherapy involves gradually exposing people to larger and larger amounts of allergens until the immune system adapts to them and does not mount an immune answer in the future. Analyzes have found that subcutaneous injections of allergens are effective in curing children's allergic rhinitis <sup>(26)(27)</sup> and asthma <sup>(25)</sup>. Treatment by exposing people to allergens is generally safe and active for allergic rhinitis, conjunctivitis, and allergies to stinging bug.

## 2-MATERIAL AND METHODS:

The study started in (the holy city of Mecca in Saudi Arabia), began writing the research and then recording the questionnaire in June 2023, and the study ended with data collection in October 2023. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (The impact of the risks of excessive use of allergy medications on human health). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation <sup>(28)</sup>,

And use the Excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages <sup>(29)</sup>. A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of twelve questions, seven were closed and five questions are opened. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere <sup>(30)</sup>

## 3- RESULTS AND DISCUSSION:

The participation rate in the questionnaire distributed to them via WhatsApp was 100%, regarding the ages of the participants in the research questionnaire, as follows: from 25 to 34 years, their percentage reached 40%, while from 35 to 43 years, their percentage reached 60%, from 44-53 years, their percentage reached 0%, and from 54 to 60 years, their percentage reached 0%. Regarding their gender, the percentage of males was 86.7%, and the percentage of females was 13.3%. Their nationalities were all 100% Saudi. As for their educational status, it was as follows: neither read nor write 0%, primary 0%, middle school 0%, secondary 0%, university 40%, diploma 46.7%, master's degree 13.3%, doctorate 0%. As for their professions, it was As follows: student 6.7%, government employee 80%, housewife 0%, self-employed 0%, entrepreneur 0%, private sector employee 13.3%. When moving to the questionnaire questions, they were as follows: The first question: What are the risks of excessive use of allergy medications to human health? The answers were: cataracts, osteoporosis, muscle weakness, stomach ulcers, There is no real risk of losing its effectiveness or getting used to it, I don't know, but frequent use without medical supervision may lead to some risks, such as exceeding the specified daily dose and greater exposure to side effects. Tolerance, Abdominal pain, headache, nausea, drowsiness, dry mouth, Drug conflicts and interactions, the effect on important organs such as the liver and kidneys, side effects, dependence or addiction to it, a feeling of drowsiness, dehydration, and fatigue, and perhaps an impact on the health of the pregnant woman and the fetus. Dosages may differ with children and those with chronic diseases. The use of these medications should be avoided in very young children and should be used with caution and only when necessary, in patients suffering from: pregnancy, constipation, dry mouth, asthma, chronic obstructive lung disease, and kidney

and liver disease. Harmful, these medications become effective after using them for more than 4 or 5 consecutive days, Fluid retention. The second question is: What types of allergy medications are currently available? cetirizine, loratadine and chloropheniramine. Antihistamines: Loratadine - Desloradine - Stirizine – Fexofenadine, Antihistamines, decongestants, immunomodulators, cortisone, Antihistamine, Clarinex Claritin Hystop Sterzine, Nnn, histope ; claritin; Telefast; Lorenz; Artiz; Allegra, some cause drowsiness and others do not. Antihistamine medications like (Clarinase & Cetirizine & Diphenhydramine).

Drowsy and non-drowsy, Medicines that cause drowsiness and medicines that do not cause drowsiness, Allergy to food, dust, or smells. The third question: What is the role of allergy medications on human health? reduce histamine in blood, alleviating cold symptoms - alleviating skin itching, maintaining human safety when exposed to allergies, whether severe, mild, or life-threatening, symptoms relief and lifesaving, Histamine is a chemical found in some cells in the body that causes allergic symptoms. When a person is sensitive to certain substances, such as food or dust, the immune system mistakenly believes that this substance is harmful to the body, and initiates reactions that require some of the body's cells to release histamine and other chemicals into the bloodstream, causing various allergy symptoms, such as a runny nose or sneezing. Antihistamine medications help combat these symptoms. Antihistamines are divided into two main groups: the older ones, which may cause drowsiness, and the newer ones. It is less likely to cause drowsiness. Antihistamines come in different pharmaceutical forms, either alone or mixed with other active ingredients, such as paracetamol and decongestants. - Antihistamines are usually taken orally in various forms: tablets, capsules, chewable tablets, and syrups. They may come in the form of eye or ear drops, nasal spray, or topical application on the skin. Some antihistamines registered with the Food and Drug Authority can be purchased without a prescription. It is recommended to ask the pharmacist about the antihistamine and the appropriate dose for you or your child, while making sure to read the medicine's internal leaflet. It relieves runny nose, itching, rashes, swelling, and seasonal allergic diseases. It affects the airway, sinuses, nasal passages, skin, and digestive system. Sedative. Skin allergy medications are a variety of pharmaceutical compounds that can be used topically or orally depending on the type of disorder causing the skin allergy and the symptoms accompanying it. It preserves human health and

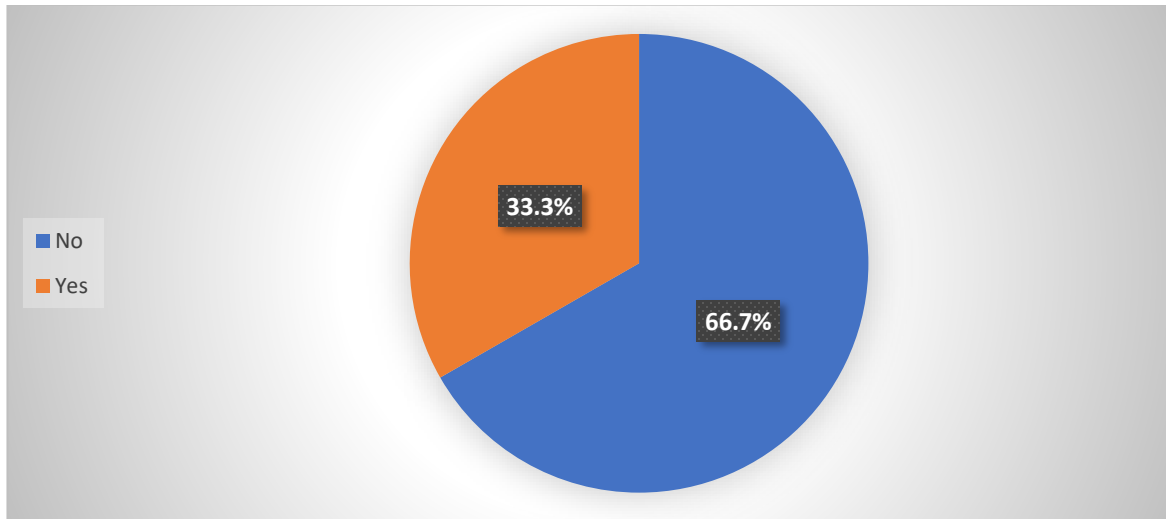
reduces the risk of serious complications such as shortness of breath. The fourth question: What are the benefits of allergy medications on human health? They relieve runny nose, itching and tears in the eyes, rashes, swelling, and other indicators of illness or symptoms of allergies. for itching and excessive release of antihistamine led to significant decrease in blood pressure led to death, relieves runny nose - relieves itching - helps sleep, reducing irritation and allergy symptoms that people may be exposed to sleep induced, It reduces the signs and symptoms of all types of allergies and contributes to alleviating their effects on the human body, the medications work by blocking the effects of histamine, a substance secreted in the body that causes allergy symptoms. It is used to treat allergy symptoms, such as: sneezing, runny nose, and works to prevent itching, swelling, redness, coughing, nausea, and dizziness. Therapeutically Preserving human life from the serious complications of allergy. The sixth question: In your opinion, is the use of allergy medications an urgent necessity for human health? Yes, 92.9% and 7.1%. The sixth question: In your opinion, is the use of allergy medications important for human health? Yes, 80% and 20%. The seventh question: Is it possible to avoid the use of allergy medications for human health? They are both equal to 50%. The eighth question: In your opinion, does the use of allergy medications affect the human immune system? Yes 33.3% and No 66.7%. Question 9: In your opinion, is it possible to take other medications, including herbal nutritional supplements, instead of allergy medications? Yes 53.3% and no 46.7%. Question 10: In your opinion, can allergy medications be avoided by staying away from dust, fumes, and pollution in general? Yes 66.7% and no 33.3%. Question Eleven: Do you consult your physician if you use certain allergy medications? Yes 73.3% and no 26.7%. The last question: What are the reasons for using allergy medications for human health? to treat symptoms of allergies such as runny nose or sneezing, Pain or tenderness around your cheeks, eyes or forehead, coughing, wheezing or breathlessness, itchy skin or a raised rash (hives) Cold symptoms - rash – itching, avoid suffocation when an allergic reaction occurs, alleviate the symptoms associated with the allergy, and maintain a healthy lifestyle for people who suffer from hypersensitivity. Allergies. Congestion, runny nose, sneezing, or itching.

- Sinusitis. - Inflammation and rash. - Eye itching and increased tearing. Runny nose, urticaria, skin allergies, asthma, chest allergies; Allergic immune diseases, eye allergies and nasal allergies, various allergic diseases. Some use it to control acute attacks, while others use

it to prevent or reduce the severity of allergies. In case of chronic allergy, Allergies. Relieves runny nose, itchy and watery eyes, rashes, swelling, and other signs of illness or symptoms of allergies. (figure No.1), Based on the opinions of the people participating in the research questionnaire, 66.7% of them believe that it

has no immunological effect on them due to some of them consulting the treating physician, and the extent to which they take it by consulting the treating physician carefully and responsibly, while 33.3% of the participants believe that it has an impact on their health and therefore do not prefer to use it.

**Figure No.1: People's opinions and trends about the extent to which the use of allergy medications affects the human immune system**



#### 4- CONCLUSION:

We found from this study that, the importance of allergy medications for humans, as they protect them from exposure to pollution, smelling odors, shortness of breath, harmful insect stings, and hypersensitivity to some of the foods they fear.

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