



## Clinical-Epidemiological Features of Eczema of the Skin in Uzbekistan (on the Example of the Tashkent Region).

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Article History	Abstract
Received: 06 September 2023 Revised: 08 November 2023 Accepted: 19 November 2023	<p><i>Justification.</i> Eczema of the skin is recognized as a major health problem worldwide. Prevalence estimates reach one third of the population, depending on the country studied, the age range of the subjects and the diagnostic criteria used.</p> <p><i>The aim is to assess the nature of epidemiological and clinical manifestations of eczema of the skin in Uzbekistan.</i></p> <p><i>Results.</i> The data of the population register of eczematous skin diseases, created on the basis of the Tashkent regional skin-venereological dispensary, have been studied. Retrospective analysis of stories for the period 2019-2023. conducted on the clinical basis of the department «Dermatovenereology and cosmetology» of the Tashkent Medical Academy.</p> <p><i>Conclusion.</i> The prevalence of skin eczema among the general population of the Tashkent region from 2019 to 2023. It has increased reliably, especially in the age group of years. Eczema is more common among men, with an earlier onset of the disease (the age group under age). The most common clinical form is true skin eczema.</p> <p><b>Key words:</b> true eczema, epidemiology, risk factors, Tashkent region.</p>
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### 1. Introduction

Eczema is an acute or chronic recurrent disease characterized by an inflammatory reaction, polymorphism of the elements of rash intense itching, formed by exogenous or endogenous factors. The problem of eczema is becoming more and more urgent. Chronic eczema accounts for 40% of all skin diseases [8]. Eczema is found in all age groups and is often associated with occupational diseases. According to epidemiological studies, various types of eczema are among the most common diseases in dermatology practice. The

morbidity rate of healthy people reaches 10%. Temporary disability represents 36% of all labour losses related to skin diseases [5]. Eczema patients account for more than 30% of hospital admissions. Women have higher eczema rates than men. In recent years, eczema has tended to have a more severe current, with frequent relapses, a greater spread to the skin and resistance to treatment [2].

There is now no doubt about the genetic predisposition to allergies, including skin eczema found in various countries. Manifestations of the disease significantly reduce the quality of life of patients, lead to long periods of disability. In particular, the course of these diseases is often associated with sleep disorders [3].

Eczema is considered to be a multifactorial disease caused by a combination of environmental and genetic factors. Currently, many researchers believe that the inheritance of skin eczema is multifactorial and that the formation of allergic pathology involved not the disease itself, but a number of genetic factors [1]. Thus, the presence of atopia, in particular skin eczema, in both parents significantly increases the risk of developing skin eczema and its severity in offspring. Genetic studies have shown that the risk of developing allergies in a child is 60-80% if both parents suffer from allergic diseases, if one of the parents is then 40-50% [6]. If both parents are healthy, the probability of developing an allergic disease in a child is 10-20%.

Exposure to exogenous risk factors induces the emergence and subsequent exacerbation of skin eczema in persons with a genetic predisposition, resulting in chronic disease flow [11]. According to the sin in the mother's nutrition, artificial feeding during pregnancy and breastfeeding contribute to the development of the disease. Excessive consumption of histamine, food allergies and parasitic infections play an important role in early childhood [4]. In adolescence, aero-allergens, mainly domestic, chronic infections, related diseases, psycho-emotional stress and nutritional deficiencies figure prominently among the triggers [9,12].

In recent years, researchers have focused on the role of microbial and fungal skin flora in skin eczema pathogenesis. The skin microflora of such patients often contains opportunistic pathogens that cause and maintain allergic inflammation at eczema of the skin [7, 10]. Thus, tightly colonized *Staphylococcus aureus* was found on affected skin in 93% of eczema patients, skin without skin rash in 76% and mucous membrane of upper respiratory tract in 79% [4].

**Purpose of the study:** To study the public health problem associated with eczema and eczematous conditions in the Tashkent region by analysing the prevalence of the disease and symptoms, estimating the number of undetected cases and evaluating related diseases.

Thus, the study is aimed at determining the epidemiology, clinical manifestations and impact on the quality of life of adult patients with eczema in Uzbekistan, including the Tashkent region.

## **2. Material and Methods**

### **Research design**

A retrospective epidemiological study (with analysis of medical documentation) was conducted.

### **Eligibility criterion**

Includes children and adults with eczema diagnosis Conditions

The study was conducted in the Tashkent Regional Dermato-Venereal Dispensary (TOKVD) of Tashkent in the period from 2019 to 2023.

The present observation study studies the epidemiological and clinical features of patients with eczema, who are registered in the Tashkent region. The data of the population register of eczematous diseases created on the basis of TOKVD (Tashkent region) have been studied. The State Committee on Statistics of the Republic of Uzbekistan provided statistical data on the population.

A retrospective analysis of medical records for the period 2019-2023 was also carried out. on the clinical basis of the Department of Dermatovenereology and Cosmetology of the Tashkent Medical Academy TOKVD.

They calculated the annual prevalence of eczema in men and women in different age groups from 2019 to 2023, using Poisson's regression to identify statistically significant trends using Hee Square Walda statistics.

### 3. Results

#### Objects (participants) of research

Based on the study of archival data, it was established that for 2019-2023. общее число пролеченных больных в ТОКВД составило 4243, из них в 2019 г-621 (14,6%), 2020 г-(18,3%), 2021 г (19,7%), 2022 г-(21,8%) и 2023 г (25,6%) (Рис 1).

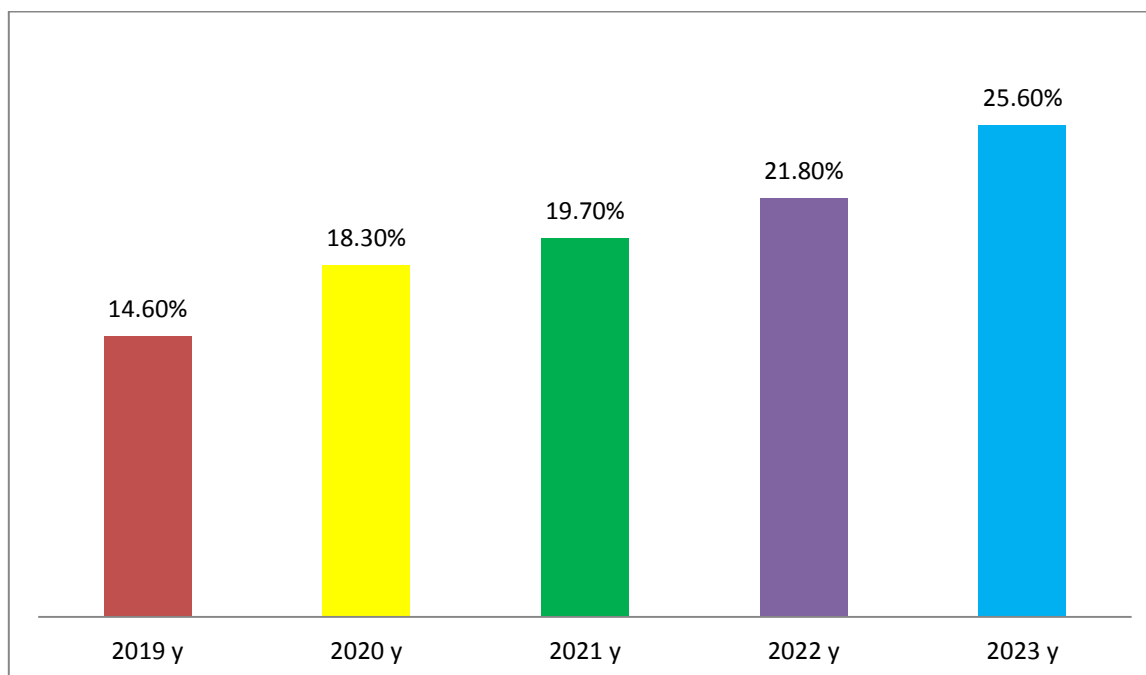


Fig. 1 . Prevalence of skin eczema among the total population of the Tashkent region in 2019-2023. %.

According to the latest WHO age classification, people by age can be divided into the following categories:

1. Young people (young age) - 18-44
2. Middle age (average age) 45-59
3. Older persons (old age) - 60-74 years
4. Old people (old age, old age) - 75-90 years
5. Longevity (age of longevity) - over 90 years

young age (18-44 years)-n=2374 (55.9%), middle age (45-59 years)- n=1097 (25.8%), old age (60-74 years)- n=712 (16.8%), old age (75-90 years)- n=48 (1.13%), old age (over 12 years=28%). (Figure 2)

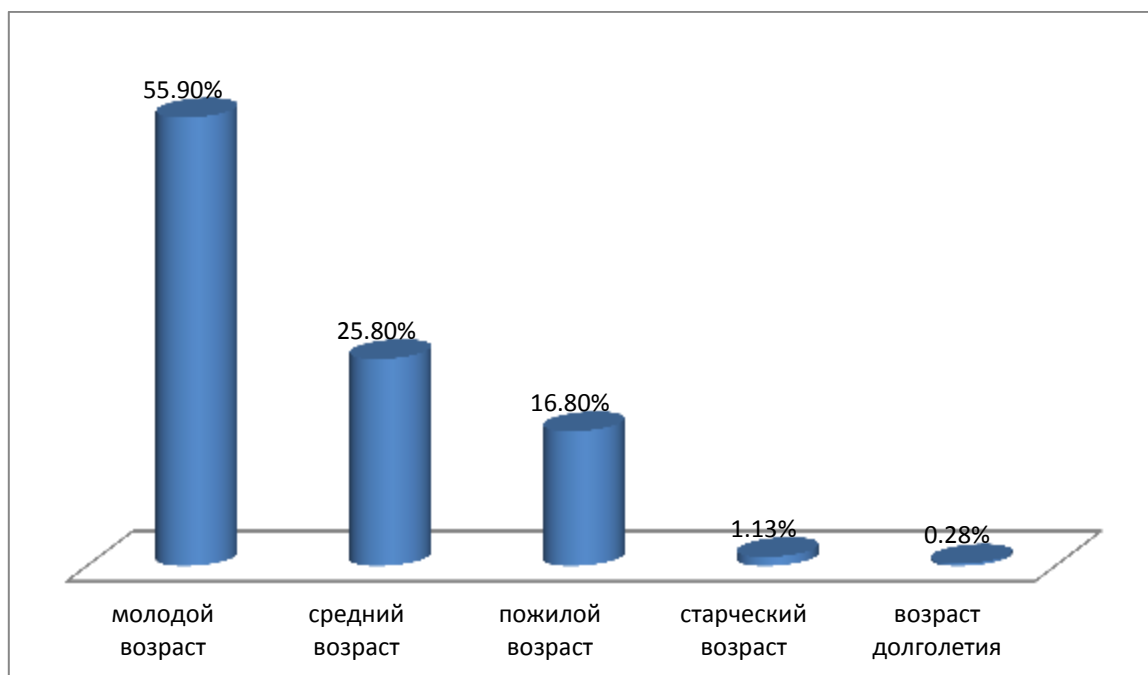


Fig. 2. Prevalence of skin eczema among individual age groups of the Tashkent region in 2019-2023.

2,993 (70.53%) of men and 1,250 (29.46%) of women were included in the study. (Fig 3)

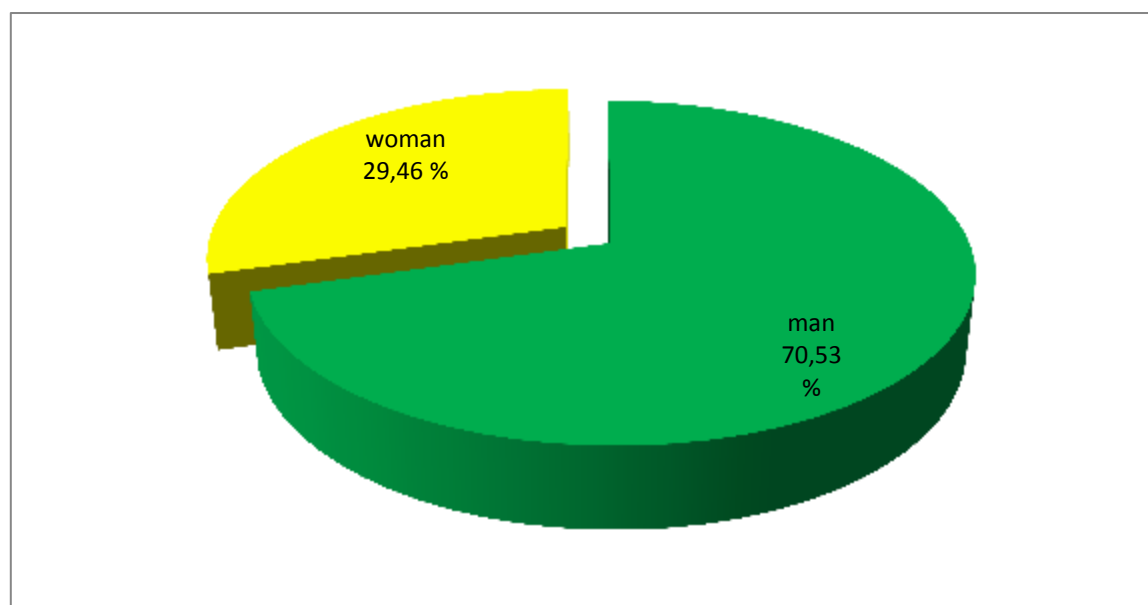


Fig. 3. Prevalence of skin eczema among the total by sex population of the Tashkent region in 2019-2023. %.

В 2019г -438 (14,6%) муж и 163 (13,04%) жен, в 2020 г-578 (19,3%) муж и 197 (15,76 %), в 2021 г-615 (20,54%) муж и 209 (16,72 %) жен, в 2022 г- 661 (22,08%) муж и 233 (18,64%) жен, в 2023 г- 701 (23,42 %) муж и 448 (35,84 %) жен. (Figure 4)

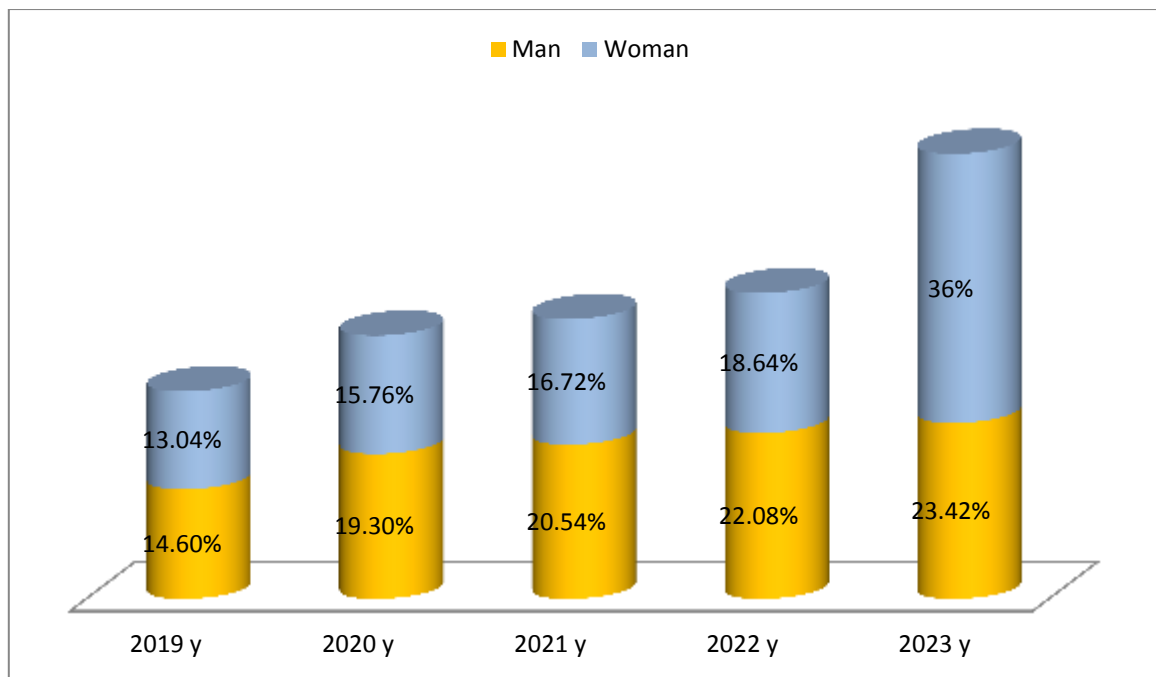


Fig. 4. Prevalence of eczema of the skin compared to the gender of the population of the Tashkent region in 2019-2023. %.

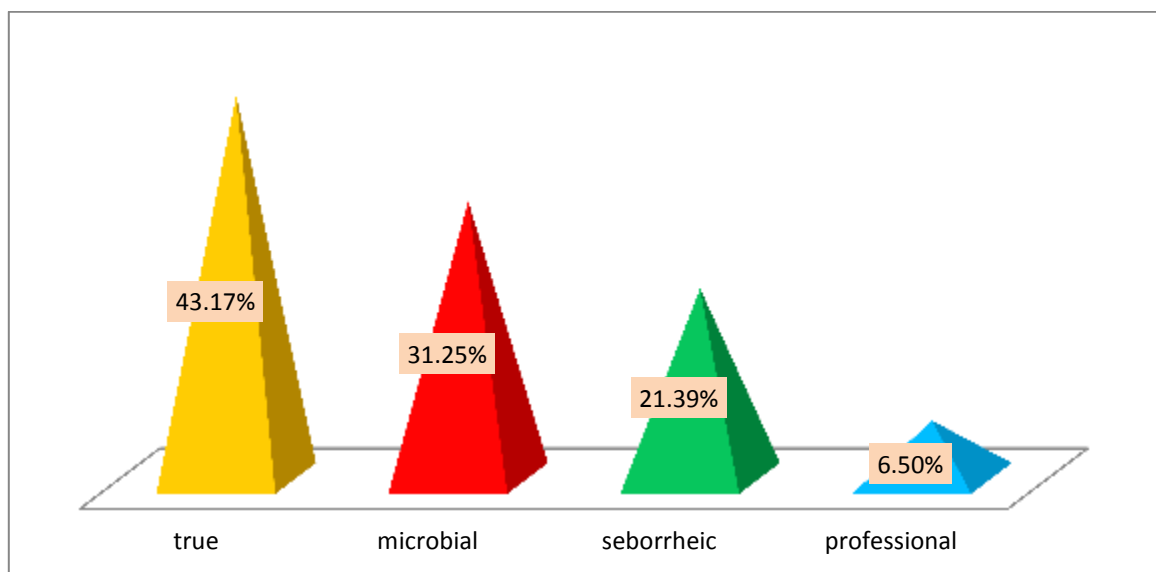


Fig. 5. Prevalence of skin eczema by clinical form of the population of Tashkent region in 2019-2023. %.

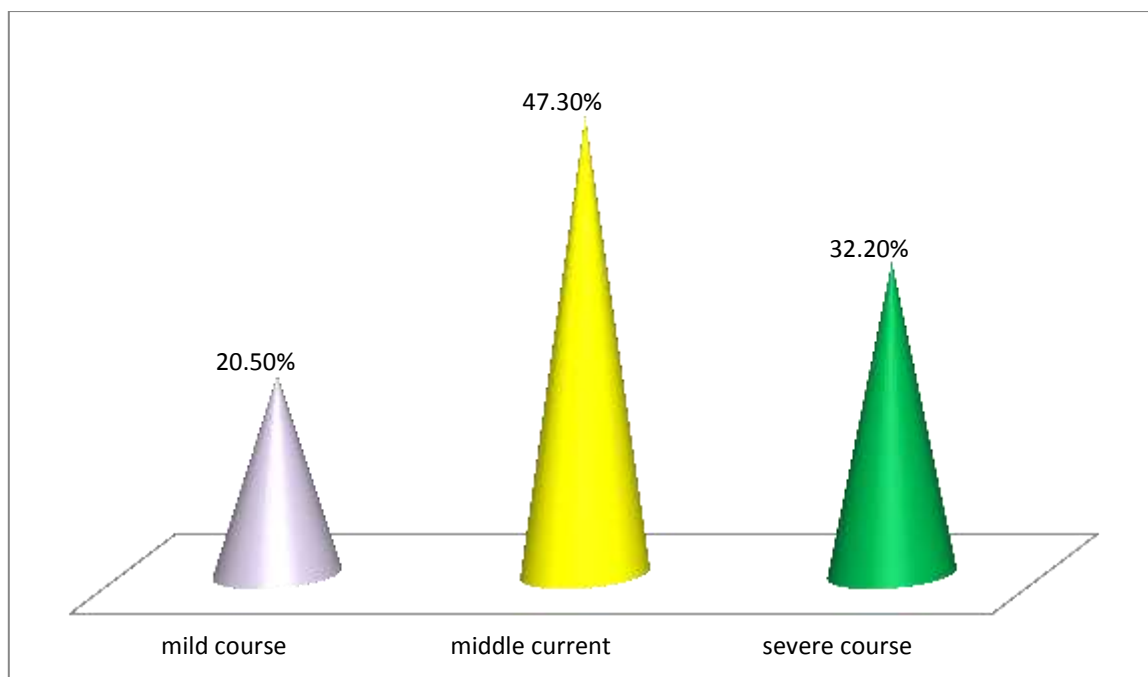


Fig. 6. Prevalence of skin eczema according to the clinical course of the population of Tashkent region in 2019-2023. %.

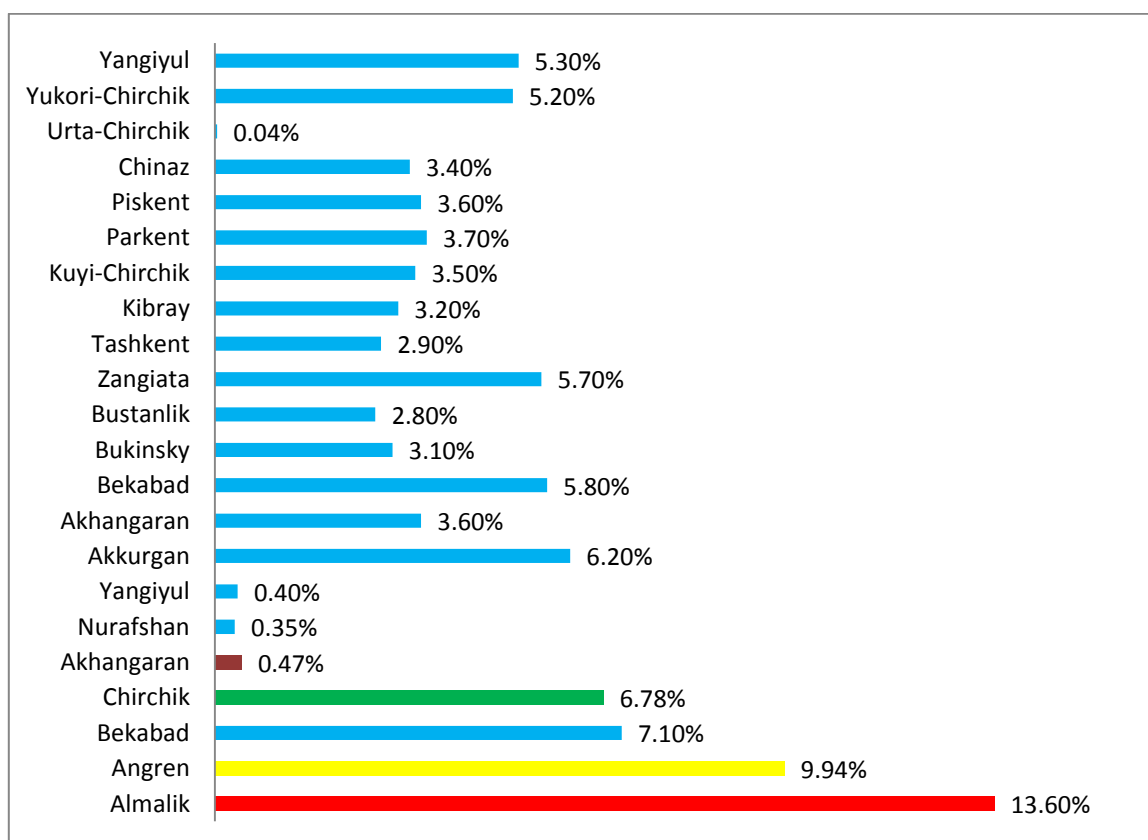


Fig. 7. Prevalence of skin eczema by regions of the population of the Tashkent region in 2019-2023. %.

2,507/4,243 (59.1%) were diagnosed with co-morbidity; 2376/4243 (56%) had 2 or more diseases besides eczema of the skin. Respiratory system diseases were detected in 2040 (48.1%) patients with eczema with associated diseases, including bronchial asthma in 1616

(38.1%), chronic obstructive bronchitis in 424 (10%). Circulatory system diseases were detected in 466 (11%) patients with eczema with arterial hypertension.

577 (13.6%) patients were diagnosed with allergic rhinitis. Endocrine system diseases, metabolic disorders are found in 1026 (24.2%) eczema patients, including diabetes mellitus at 458 (10.8%), hyperlipidemia at 331 (7.8%), diffuse goitre at 229 (5.4%), obesity at 8 (0.2%). In 131 (3.1%) patients are diagnosed with Asteno-vegetative syndrome. (Fig 8).

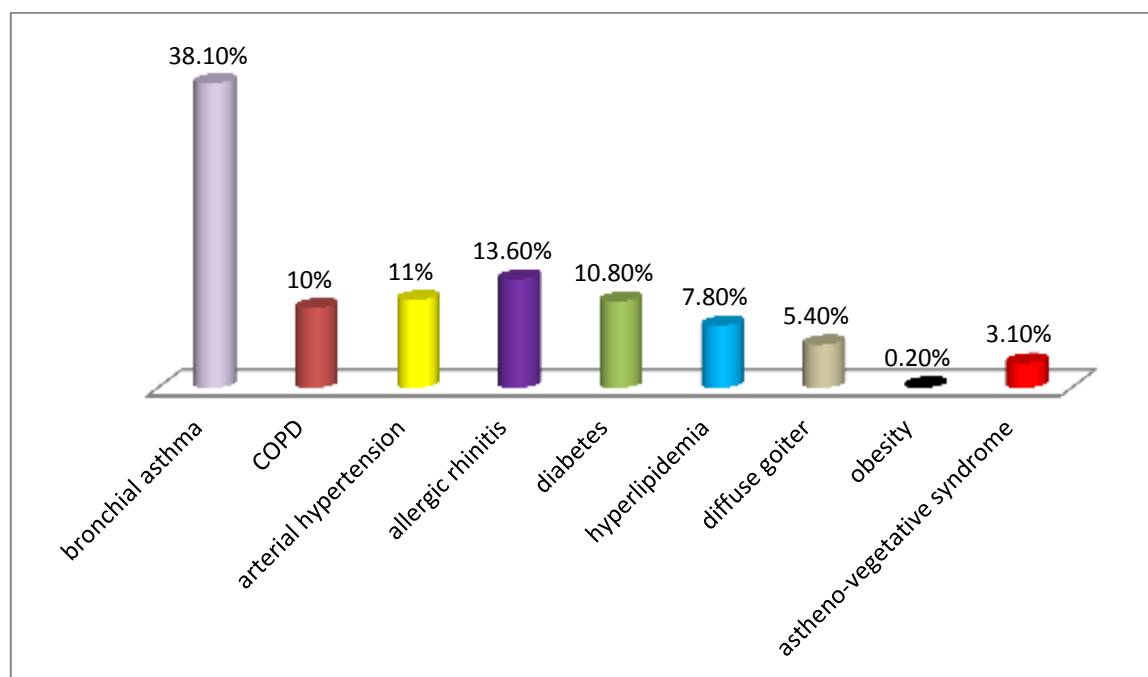


Fig. 8. Prevalence of eczema of the skin with associated diseases of the population of the Tashkent region in 2019-2023. %.

### **Main research findings**

The prevalence of eczema among the general population of the Tashkent region from 2019 to 2023. has increased reliably, especially in the age group of 18-44 years.

Eczema is more common among men, with early onset (age group 40).

The most common clinical form of eczema is true eczema.

### **DISCUSSION**

As the comparative analysis showed, eczema is more often observed in men and occurs in the true eczema not only in the Tashkent region, but in the Republic of Uzbekistan. There is a clear need to improve the quality and quantity of data related to the epidemiology of eczema in the Tashkent region.

Of the 4,243 cases of eczema with comorbid and related illnesses, the respiratory system was most often detected in 2,040 (48.1%) patients with eczema with associated diseases, including bronchial asthma in 1616 (38.1%), chronic obstructive bronchitis in 424 (10%). Circulatory system diseases were detected in 466 (11%) patients with eczema with arterial hypertension. 577 (13.6%) patients were diagnosed with allergic rhinitis. Endocrine system diseases, metabolic disorders are found in 1026 (24.2%) eczema patients, including diabetes mellitus at 458 (10.8%), hyperlipidemia at 331 (7.8%), diffuse goitre at 229 (5.4%), obesity at 8 (0.2%). 131 (3.1%) of patients are diagnosed with astheno-vegetative syndrome.

Thus, the results show the need for a multidisciplinary approach to such patients and additional thorough examination of patients with psoriasis by doctors of other specialties for early diagnosis and timely correction of concomitant pathology.

#### 4. Conclusion

There is a clear need to improve the quality and quantity of data related to the epidemiology of skin eczema in the Tashkent region. Diagnostic criteria and reporting on morbidity and prevalence should be standardized. It is necessary to plan the expansion of medical assistance to the population, providing the population with highly qualified specialists. In order to develop effective therapies and counter-relapse measures, it is necessary to take into account the peculiarities of the clinical flow of the eczematous process and the possibility of neutralizing the negative influence of certain factors specific to the climate of the geographical area of the Republic of Uzbekistan, including the Tashkent region.

#### 5. Literature

1. Katoh N, Ohya Y, Ikeda M, Committee for Clinical Practice Guidelines for the Management of Atopic Dermatitis 2018, The Japanese Society of Allergology, The Japanese Dermatology Association. Japanese guidelines for atopic dermatitis 2020. // *Allergol Int.* 2020 Jul;69(3):356-369
2. Chalmers JR, Haines RH, Bradshaw LE, Montgomery AA, BEEP study team. Daily emollient during infancy for prevention of eczema: the BEEP randomised controlled trial. // *Lancet.* 2020 Mar 21;395(10228):962-972
3. Salvati L, Cosmi L, Annunziato F. From Emollients to Biologicals: Targeting Atopic Dermatitis. // *Int J Mol Sci.* 2021 Sep 26;22(19):10381.
4. Cosmi L., Maggi L., Mazzoni A., Liotta F., Annunziato F. Biologicals targeting type 2 immunity: Lessons learned from asthma, chronic urticaria and atopic dermatitis. // *Eur. J. Immunol.* 2019; 49:1334–1343.
5. Werfel T., Allam J.P., Biedermann T., Eyerich K., Wollenberg A., et al. Cellular and molecular immunologic mechanisms in patients with atopic dermatitis. // *J. Allergy Clin. Immunol.* 2016; 138:336–349.
6. Renert-Yuval Y., Thyssen J.P., Bissonnette R., Bieber T., Kabashima K., Hijnen D., Guttman-Yassky E. Biomarkers in atopic dermatitis—A review on behalf of the International Eczema Council. // *J. Allergy Clin. Immunol.* 2021; 147:1174–1190
7. Wollenberg A., Barbarot S., Bieber T., Christen-Zaech S., Deleuran M., Fink-Wagner A., Gieler U., Girolomoni G., Lau S., Muraro A., et al. Consensus-based European guidelines for treatment of atopic eczema (atopic dermatitis) in adults and children: Part I. // *J. Eur. Acad. Dermatol. Venereol.* 2018; 32:657-682.
8. Van Zuuren E.J., Apfelbacher C.J., Fedorowicz Z., Jupiter A., Matteredne U., Weisshaar E. No high-level evidence to support the use of oral H1 antihistamines as monotherapy for eczema: A summary of a Cochrane systematic review. // *Syst. Rev.* 2014;3:25
9. van Zuuren E.J., Fedorowicz Z., Arents B.W.M. Emollients and moisturizers for eczema: Abridged Cochrane systematic review including GRADE assessments. // *Br. J. Dermatol.* 2017; 177:1256–1271
10. Chalmers J.R., Haines R.H., Bradshaw L.E., Montgomery A.A., Thomas K.S., Brown S.J., Ridd M.J., Lawton S., Simpson E.L., Cork M.J., et al. Daily emollient during infancy for prevention of eczema: The BEEP randomised controlled trial. // *Lancet.* 2020; 395:962–972
11. Schmitt J., von Kobyletzki L., Svensson A., Apfelbacher C. Efficacy and tolerability of proactive treatment with topical corticosteroids and calcineurin inhibitors for atopic eczema: Systematic review and meta-analysis of randomized controlled trials. // *Br. J. Dermatol.* 2011; 164:415–428



12. Schram M.E., Roekevisch E., Leeflang M.M., Bos J.D., Schmitt J., Spuls P.I. A randomized trial of methotrexate versus azathioprine for severe atopic eczema. //J. Allergy Clin. Immunol. 2011; 128:353–359