

Proportion of Atopic Dermatitis in the Dermatology Venereology and Aesthetics Polyclinic at Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital 2017 – 2022

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Abstract

Background: Atopic dermatitis (AD) is a chronic, recurrent inflammatory skin disease that commonly affects both children and adults. It is characterized by intense pruritus, xerosis, and eczematous lesions, significantly impairing quality of life. Globally, the prevalence of AD has increased over the past few decades, making it a significant public health concern, especially in developing countries.

Objective: This study aimed to determine the occurrence and demographic characteristics of atopic dermatitis patients treated at the Dermatology, Venereology, and Aesthetics Polyclinic, Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital, from 2017 to 2022.

Methods: A retrospective descriptive study was conducted using secondary data obtained from medical records of patients diagnosed with AD between 2017 and 2022. Data collected included age, sex, and annual case distribution.

Results: A total of 136 patients were diagnosed with atopic dermatitis during the study period. The annual distribution showed: 10 patients in 2017, 7 in 2018, 21 in 2019, 59 in 2020, 2 in 2021, and 37 in 2022. Pediatric cases (<18 years) accounted for 112 individuals (82.3%), consisting of 64 males and 48 females. Adult cases (≥18 years) included 24 individuals, with 13 males and 11 females. Overall, male patients predominated with 77 cases (56.6%). The highest number of AD cases occurred in 2020, totaling 59 patients (43.4% of all cases). The overall proportion of AD among patients attending the Dermatology, Venereology, and Aesthetics Polyclinic during this period was 1.27%.

Conclusion: Atopic dermatitis remains a prevalent condition in pediatric populations, with a higher incidence in males. A peak in cases was observed in 2020, potentially influenced by environmental or behavioral factors during the COVID-19 pandemic. Further research is needed to identify specific contributing factors and improve prevention strategies.

Keywords: Proportion, atopic dermatitis, gender, children, adult.

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Introduction

Atopic dermatitis (AD) is a continuing demagogic skin disease that frequently persists, habitually occurring in childhood through a diverse course.¹⁻² Typical symptoms of this disease include longing that can disturb sleep, excoriation of

the skin, and skin that is more easily affected by infection. Patients with AD usually have atopic comorbidity, which is caused by asthma, allergic rhinitis, and can cause disruption to a person's quality of life.¹⁻³ Atopic dermatitis often begins early in the growth period (early-onset atopic dermatitis).

The majority 70% cases of AD belong to paediatric population. However, this disease can also befall in maturity (late onset atopic dermatitis).⁴

Research states that the proportion of AD is increasing so that it is a major health problem.⁵ The commonness of atopic dermatitis in the adult population in the United States varies amongst 3.2% and 10.2%.⁶ The Indonesian Pediatric Dermatology Study Group (KSDAI) circumstances that the occurrence of atopic dermatitis in Indonesia is 23.7%.⁷ The incidence of atopic dermatitis at Haji Adam Malik General Hospital in Medan during the period January 2014 to December 2016 was found to be 50 cases with the highest amount of belongings in the adult age assembly ≥ 23 years (40%).⁸

Patients with AD for the most part have comparable skin side effects, however a few trademark elements can be separated between various age bunches from early stages, youth, and adulthood.^{1,9-11} AD in infants can develop 2–3 months after birth. Side effects might show up as erythematous, intersecting, non-discrete exudative patches that normally include the cheeks and face. The scalp, brows, ears, and extensor surfaces likewise regularly impacted. Youngsters matured,²⁻¹¹ specifically after the age of two, and prior to becoming teens. In this period, the facial skin is seldom included, more sores foster in the antecubital fossa region of the arms and popliteal fossae of the legs, a normal image of dermatitis in the flexural regions is found in AD. Adolescent age >12 years AD resembles many of the features seen in childhood AD. Symptoms that are usually observed include erythematous plaques, papules, and hyperpigmentation in the periorificial area, periocular area, neck, and flexural areas. Adult age >18 years Adult AD is almost the same as adolescent AD. Eczema involves the flexural zones of the arms and legs, neck, and face, and chronic lesions through xerosis and lichenification may be seen.⁹⁻¹¹

Methods

This research is a retrospective descriptive study evaluating the medical records of patients diagnosed with atopic dermatitis at the Dermatology, Venereology, and Aesthetics Polyclinic, Prof. Dr.

Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital, during the period of 2017–2022. All patients included in the study provided written informed consent prior to data use. The diagnosis of atopic dermatitis was confirmed by a dermatologist based on standardized criteria, specifically the Hanifin and Rajka diagnostic criteria. Medical records lacking essential clinical information were excluded from the analysis. No additional inclusion or exclusion criteria were applied. Evaluation data were categorized according to the number of cases, gender, and age.

The statistical analysis comprises both descriptive and inferential analysis. The descriptive analysis involves the calculation of frequency and percentage as well as mean and standard deviation. The Chi square test was used to determine the difference between the variables. The significance level was set at $p < 0.05$.

Results

The number of new cases of AD at the Dermatology Venereology and Aesthetics Polyclinic at Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital for the 2017–2022 period found 136 people, with a proportion of 1.27%. The highest number of new AD patient cases was in 2020 with 59 people (Table 1).

The number of AD patients who were male was 77 (56.6%) and female 59 (43.4%). There were 64 pediatric AD patients (83.1%), and 13 adult AD patients (16.9%) (Table 2).

Table 1: Distribution of AD cases in children and adults at the Dermatology Venereology and Aesthetics Polyclinic, Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital 2017–2022.

Year	Patients Visit (n)	AD Patients (n)	Proportion (%)	p-value*
2017	1.455	10	0.68%	
2018	1.912	7	0.36%	
2019	2.370	21	0.88%	
2020	1.580	59	0.37%	0.00
2021	0.918	2	0.21%	
2022	2.418	37	1.53%	
Total	10.653	136	1.27%	

*: bold font indicates significant by chi square test at $p > 0.05$

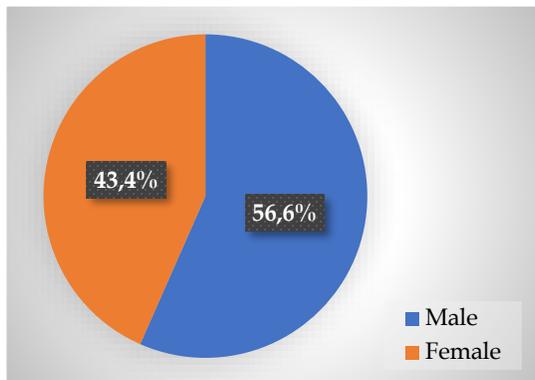


Figure 1: Subject percentage data by gender.

Discussion

From the research results, it was found that the incidence of AD increased in 2020. 2020 was marked by the COVID-19 pandemic. Even though children are fewer probable to be diseased with severe symptoms of COVID-19, the pandemic is causing real disruption to the daily lives of children around the world. In a review by Irwin et al. There were physical, psychological, educational, developmental, interactive and social complaints in children throughout the COVID-19 pandemic.¹² The COVID-19 pandemic has caused an increase in skin irritation and illnesses in health workers who require long-term practice of particular defensive equipment. The COVID-19 pandemic is also thought to increase stress levels which can exacerbate DA.¹³

The commonness of atopic dermatitis in the adult population in the United States varies amongst 3.2% and 10.2%.¹⁴ The Indonesian Pediatric Dermatology Study Group (KSDAI) states that the commonness of atopic dermatitis in Indonesia is 23.7%.⁷ The incidence of atopic dermatitis At the Haji Adam Malik Hospital in Medan during the period January 2014 toward December 2016, 50 cases were found with the most cases in the adult age group ≥ 23 years (40%).⁸

Atopic dermatitis is a disease through a high commonness in children, but AD can also be found in adult patients.¹⁵ Around 10–20% of children in developing countries, 2–10% of adults, and 1–3% of the elderly experience AD. The cause of this is still not clearly known. Many examinations show that skin obstruction brokenness and safe immune

Table 2: Distribution of AD cases based on age group and gender at the Dermatology Venereology and Aesthetics Polyclinic, Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital 2017–2022.

Age	Sex				Total		p-value*
	Male		Female		N	%	
	n	%	n	%			
≤ 18 years	64	83.1	48	81.3	112	82.3	0.968
> 18 years	13	16.9	11	18.7	24	17.7	
Total	77	100	59	100	136	100	

*: bold font indicates significant by chi square test at $p > 0.05$

dysregulation contribute. The epidermis assumes a significant part as a physical and practical boundary, and skin hindrance harm is the main obsessive finding in AD skin. Filaggrin, transglutaminase, keratin, and intercellular proteins are key proteins liable for epidermal capability.¹² The occurrence and commonness of AD can vary extensively depending on geographic region indicating differences in genetic and environmental factors.^{16,17}

In this study, it was found that male patients in both age groups experienced more AD when compared with female patients. This is not in accordance with previous research which shows the predominance of the female gender.¹⁸⁻²⁰ According to a study by Johansson et al, atopic dermatitis is also found to occur more frequently in women than men¹⁸, because women produce high levels of the hormones estrogen and progesterone which are thought to affect psychology and feelings, resulting in women being more sensitive and easily experiencing stress. Meanwhile, in their biological and psychological processes, men produce high testosterone hormones and not too high progesterone which is thought to be able to influence increased aggressiveness, so that men tend to be stable and have a lower chance of getting stress and compared to females.^{21,22}

Conclusion

This research provides results on the proportion of AD in the Dermatology Venereology and Aesthetics Polyclinic at Prof. Dr. Chairuddin Panusunan Lubis Universitas Sumatera Utara Hospital for the 2017–2022 period was 1.27%, with the highest

number of visits in 2020 being 59 people (43.4%). Gender was found to be 77 (56.6%) males and 112 (82.3%), aged ≥ 18 years.

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Author's Contribution

CPH: Conception & design, acquisition of data, critical revision of the article, drafting of article.

AN: Conception & design, analysis & interpretation, final approval of the version to be published.

JD: Acquisition of data, drafting of article, analysis & interpretation of data, drafting of article.

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