

FREQUENCY OF ATOPIC DERMATITIS IN PEDIATRIC POPULATION PRESENTING WITH CHRONIC PRURITUS

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ABSTRACTS

Objective: The objective of this study is to determine the frequency of atopic dermatitis in children presenting to Hayatabad medical complex Peshawar, Khyber Pakhtunkhwa, Pakistan and compare it with national and international data.

Patients and methods This was a cross sectional study carried out in the department of dermatology, "Hayatabad medical complex Hayatabad medical complex Peshawar" from 24th December 2016 to 24 June 2017. All Patients of either gender with age from birth till 13 years, presenting with chronic pruritus were enrolled for this study. All the findings were recorded on a Preformed proforma and results were compiled and tabulated.

Results: out of 136 patients presenting with chronic pruritus, 75 were male (55.1%) were male and 61 (44.9%) were female. Almost 60 (44%) patients fulfilled Hanifin and Rajka's criterion of atopic dermatitis. Male to female ratio among atopic children was 1:1.

Conclusion: Atopic dermatitis an under-diagnosed chronic disease. It will be fruitful to use Hanifin and Rajka's criteria as cost effective screening and diagnostic tool for atopic dermatitis in high risk children presenting with chronic pruritus to find out exact prevalence in different parts of Pakistan.

INTRODUCTION

Atopic dermatitis (AD) is a chronic relapsing skin condition characterized by itching and redness of the skin.¹ It is most prevalent in early childhood.² Presentation of atopic dermatitis ranges from a mildly irritating patch to a widespread pruritic rash which can persist for many years.³ Pruritus is an unpleasant sensation leading to desire to scratch the affected body part. It can be acute (lasting for less than 6 weeks) or chronic (lasting for more than 6 weeks).³

Worldwide data regarding prevalence of atopic dermatitis estimates are as high as up to one-third of the population, depending on the country, subjects studied and age range of the subjects.⁴ As already mentioned that the frequency of atopic dermatitis is rapidly increasing in developing countries including Asian countries.⁴

METHODOLOGY

Approval for research project was taken from hospital ethical committee. Written informed consent was taken from parents or attendants of children who fulfilled inclusion criterion. This was a cross sectional study and Consecutive, non-Probability sampling technique was adopted for this study. Patients of either gender with age ranging birth to 13 years, presenting with pruritus of more than 6 weeks were enrolled for this study. Patients presenting with pruritus of duration less than

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6 weeks and children presenting with infective causes of pruritus were excluded from this study. Data was entered on a preformed proforma according to Hanifin and Rajka criterion. Statistical analyses of data obtained was carried out with SPSS version 21. Frequencies and percentages were calculated for variables, results were compiled in the form of tables and figures.

The UK refinement of Hanifin and Rajka's diagnostic criterion for atopic dermatitis

Child must have an itchy skin condition (or parental report of scratching or rubbing in a child) Plus three or more of the following

1. Onset below age 2 years
2. History of skin crease involvement (including cheeks of children under 10 years)
3. History of generally dry skin
4. Personal history of other atopic disease (or history of any atopic disease in first degree relative in children under 4 years)
5. Visible flexural dermatitis (or dermatitis of cheeks, forehead and outer limbs in children under 4 years)

RESULTS

A total of 136 children aged birth to 13 years presenting with chronic pruritus were enrolled for this study while children presenting with pruritus of less than 6 weeks or having pruritus of more than 6 weeks but older than 13 years were not included in study. Out of 136, 75 (55.1%) were male and 61 (44.9%) were female, results were statistically insignificant (figure.1). 60 (44%) patients fulfilled Hanifin and Rajka's criterion of

atopic dermatitis (table 1). Male to female ratio among atopic children was 1:1 (table 2).

DISCUSSION

Atopic dermatitis (AE/AD) is a chronic relapsing skin disorder with genetic, immunologic and environmental factors playing role in its etiology.^{5,6}

Atopic eczema has become a global public health due to its increasing prevalence and its impact on quality of life of patients and their families.⁶ The International Study of Asthma and Allergies in Childhood (ISAAC) revealed that atopic dermatitis affects children across the world, although its prevalence varies substantially between countries.⁷ The prevalence of atopic dermatitis is reported to be increasing, especially in developing countries.⁷ In Pakistan limited data is available regarding prevalence of atopic dermatitis. Two different studies done by Muzaffar et al in Lahore in 2012 and Ijaz Ahmed et al in Karachi showed the prevalence of 23% and 27% respectively.^{8,9} As these different prevalence reports are

from different cities of Pakistan excluding any significant differences in geographical, socioeconomic and genetic background, the high prevalence in present study may be due to selection of children presenting with chronic pruritus thus excluding infections which is the most common cause of pruritus in this age group.¹⁰

The frequency of atopic dermatitis is also reported to be increasing rapidly in Asian countries.¹¹ This rising trend of prevalence of atopic dermatitis is further strengthened by the results of present study, which showed the frequency of atopic dermatitis in more than 44% in children (age 0-13 years) presenting with chronic pruritus. While another study conducted in Singapore (China) the prevalence of atopic dermatitis was reported to be about 20.8% but this study was conducted on children age 6 to 13 years. The high prevalence in present study might be due to inclusion of children of early age group (0-13 years), in which atopic dermatitis prevalence is on peak. The second reason for comparatively higher prevalence of atopic dermatitis in

Table 1: Frequency of atopic dermatitis in chronic pruritus (n=136)

| Atopic dermatitis | Frequency | Percent % |
|-------------------|-----------|-----------|
| Yes | 60 | 44.1 |
| No | 76 | 55.9 |
| Total | 136 | 100.0 |

Table 2: Gender distribution of the patient with diagnosis of atopic dermatitis (n= 136)

| Gender | Diagnosis of atopic dermatitis | | Total | P value |
|--------|--------------------------------|----|-------|---------|
| | yes | no | | |
| Male | 30 | 45 | 75 | 0.24 |
| Female | 30 | 31 | 61 | |
| Total | 60 | 75 | 136 | |

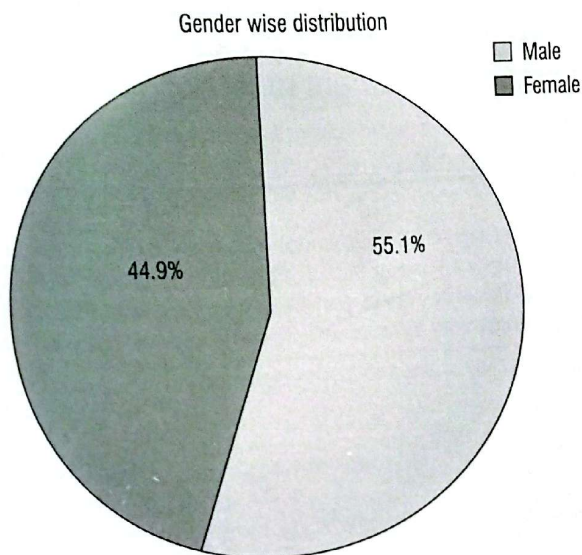


Figure 1: Gender wise distribution of study population (n=136 males=75 females=61)

our study could be that children included were included children having chronic pruritus, which further was in favor of finding more patients having atopic dermatitis.

In present study atopic dermatitis was found to be equally distributed among males and females. This is similar to other international studies (China, Malaysia, India) having the same prevalence in both genders.¹² This might be due to sharing of similar geographical, socioeconomic and genetic background.

CONCLUSION

Atopic dermatitis an under-diagnosed chronic disease. It will be fruitful to use Hanifin and Rajka's criteria as cost effective screening and diagnostic tool for atopic dermatitis in high risk children presenting with chronic pruritus to find out exact prevalence in different parts of Pakistan.

REFERENCES

1. Taylor B, Wardsworth M, et al. Changes in reported prevalence since 1939-45 war. *Lancet* 1984; 2:1255-1257
2. Fergusson DM, Horwood LT, Shannon FT. Risk factors in childhood eczema. *J Epidemiol Community Health*. 1982;36:118-122
3. Stander S, Weisshaar E, Mettang T et al. Clinical classification of itch: a position paper the International forum for the study of Itch. *Acta Derm Venereol* 2007; 87:291-294.
4. Lee wong M, Chou V, Karagic M et al. Prevalance of atopic disorders in inner city Asians Americans and the predictive value of family history. *J Aller Ther* 2013;4:1
5. Wollenberg A, Kraft S, Ooppel T, Bloeba T. Atopic dermatitis: Pathogenetic mechanisms. *Clin Exp Dermatol* 2000; 25: 530-4.
6. Leung DY. Pathogenesis of atopic dermatitis. *J Allergy Clin Immunol* 1999; 104: 99-108.
7. Asher, M. I. et al. Worldwide time trends in the prevalence of symptoms of asthma, allergic rhinorrhoea, conjunctivitis, and eczema in childhood. ISAAC, Phase One and Three repeat multicountry cross-sectional surveys. *Lancet* 368, 733-743 (2006)
8. Muzaffar Pattern of skin diseases at the children's hospital Lahore. *J Pak assoc of dermatol* 2012; 22(3):230-235
9. Agha HM, Alam zafar M, Ahmad I. pattern of skin diseases in a tertiary care private hospital, Karachi. *J Pakistan assoc dermatol*. 2014; 24(4):292-297
10. Agha HM, Alam zafar M, Ahmad I. pattern of skin diseases in a tertiary care private hospital, Karachi. *J Pakistan assoc dermatol*. 2014; 24(4):292-297
11. Shi, M. et al. Clinical features of atopic dermatitis in a hospital-based setting in China. *J Eur Acad Dermatol Venereol* 25, 1206-1212 (2011).
12. Tay YK, Kong KH, Khoo L, Goh CL, Giam YC. The prevalence and descriptive epidemiology of atopic dermatitis in Singapore school children. *Br J Dermatol* 2002;146:101-106.

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