

LETTER TO THE EDITOR

Prevalence of atopic dermatitis determined by clinical examination in Japanese adults

Dear Editor,

Atopic dermatitis (AD) is an inflammatory skin disease that is characterized by pruritic and eczematous lesions persisting chronically. Studies on the prevalence of AD have produced widely varying figures which may be due to several factors such as subjects' age, their community and the investigative methodology. There have been numerous studies on the prevalence of AD in children and adolescents, however, there have been few studies on AD in adults.^{1–5} Furthermore, most of these studies were based on hospital patient records^{1,2} or questionnaires.^{2,3,5} To the best of our knowledge, there has been no study of the prevalence of AD conducted by clinical examination in the general adult Japanese population. The objective of this study was to evaluate the prevalence of AD based on regular health check-ups by dermatologists in Japanese adults.

The target population was government officials visiting the Health Service Center of Tokyo University for annual health check-ups in September 2004. Permission was obtained from the Board of the Health Service Center of Tokyo University. The government officials were told the purpose of the study, and those who granted consent participated in this study. AD was diagnosed by experienced dermatologists based on the Japanese Dermatological Association criteria for the disease.⁶ The severity of AD was graded as mild, moderate, severe or very severe according to the following criteria:⁷ (i) mild, skin involvement of mild eruption only; (ii) moderate, <10% surface area involvement of eruption with severe inflammation (severe eruption); (iii) severe, 710% but <30% skin involvement of severe eruption; and (iv) very severe, >70% of body involvement of severe eruption. The χ^2 test was used to analyze the results, and $P < 0.05$ was considered statistically significant.

A total of 2123 (1220 men and 903 women) officials were examined in this study. The average

age was 38.8 ± 10.4 years (men: 39.6 ± 10.5 ; women: 37.7 ± 10.4) ranging 20–69 years. The prevalence of AD was 6.9% overall, and 9.8%, 8.7%, 4.4% and 2.6%, respectively, for those in their 20s, 30s, 40s and 50s/60s (Table 1). The prevalence of 30s was significantly higher than that of 40s ($P < 0.0001$). The prevalence of women was higher than that of men overall (9.3% vs 5.1%, $P < 0.001$), especially in 20s (13.1% vs 5.7%, $P < 0.05$) and 30s (11.5% vs 6.9%, $P < 0.05$). Table 2 depicts the severity of AD. Overall, 76.7%, 18.5%, 3.4% and 1.4% of those afflicted were in the mild, moderate, severe and very severe groups, respectively. There was no severe or very severe AD in those beyond their 40s, nor was there any very severe AD in men.

This is the first study of the prevalence of AD determined by clinical examination in the general adult Japanese population. In 1999, Plunkett *et al.* reported the prevalence of AD based on clinical examination by dermatologists in adults in central Victoria, Australia.⁴ A total of 1457 people (670 men and 787 women) whose ages ranged 20–94 years were examined in their study. The prevalence of AD was 6.9% overall, and 5.7% and 8.1%, respectively, for men and women. There was a clear age-related variation: the prevalence was approximately 10%, 8%, 7%, 3%, 2%, respectively, for men in their 20s, 30s, 40s, 50s and 60s, and 22%, 13%, 7%, 7%, 2%, respectively, for women in their 20s, 30s, 40s, 50s and 60s. They classified AD into three categories: mild, moderate and severe. Of those with the disease, 82.8% were classified as being mild, 14.6% moderate, and 2.6% severe. Interestingly, their results and ours suggested the same tendency: (i) the overall prevalence of adult AD was approximately 7%; (ii) the prevalence of women was higher than that of men; (iii) the prevalence decreased with age; and (iv) approximately 80% of AD cases were in the mild group.

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Table 1. Prevalence of atopic dermatitis (AD) determined by clinical examination

Age groups	AD patients			Number of participants			Prevalence (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
20s	10	29	39	176	221	397	5.7	13.1	9.8
30s	38	41	79	552	355	907	6.9	11.5	8.7
40s	10	7	17	226	164	390	4.4	4.3	4.4
50s/60s	4	7	11	266	163	429	1.5	4.3	2.6
Total	62	84	146	1220	903	2123	5.1	9.3	6.9

Table 2. Severity of atopic dermatitis determined by clinical examination

	Number	Mild (%)	Moderate (%)	Severe (%)	Very severe (%)
Age groups					
20s	39	76.9	17.9	2.6	2.6
30s	79	72.2	21.5	5.1	1.3
40s	17	82.4	17.6	0.0	0.0
50s/60s	11	100.0	0.0	0.0	0.0
Genders					
Men	62	75.8	21.0	3.2	0.0
Women	84	77.4	16.7	3.6	2.4
Total	146	76.7	18.5	3.4	1.4

In 2003, Muto *et al.*³ reported the prevalence of adult AD in Japan using questionnaires of the UK Working Party's diagnostic criteria.⁸ The subjects of their study were mostly government officials or their family members visiting Toranomon Hospital in Tokyo for annual health check-ups. Questionnaires completed by 10 762 persons (8076 men and 2686 women) aged 30 years or above (30s, 40s, 50s and older than 60s) were analyzed. The point prevalence of AD was 2.9%, and no significant statistical differences were observed between the sexes or among age groups within each sex.³ The discrepancy between their results and ours is mainly due to the difference of investigative methodology. Although the number and community of the subjects in this study are limited, the result suggests that AD is one of the most common skin diseases not only in children and adolescents but also in adults especially in their 20s and 30s. It will be necessary to examine a large number of the adult populations in various communities in order to evaluate more precisely the prevalence of AD in Japanese adults.

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