

ORIGINAL ARTICLE

Japanese patients with psoriasis and atopic dermatitis show distinct personality profiles

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ABSTRACT

Personality and emotional factors are supposed to influence the course of skin diseases, such as psoriasis and atopic dermatitis. Few reports exist, however, showing distinct personality traits among patients with psoriasis, atopic dermatitis patients and healthy controls. The aim of the present study was to examine personality differences among psoriasis patients, atopic dermatitis patients and healthy controls in Japan. A total number of 51 psoriasis patients, 97 atopic dermatitis patients and 48 healthy individuals were enrolled in the study. Questionnaires of Yatabe–Guilford Personality Inventory were administered individually. These groups were evaluated by 12 dimensions of temperaments. According to the dimension scores, personality was defined as five groups. Atopic dermatitis patients showed significantly higher scores regarding temperaments of depression, feelings of inferiority, nervousness and lack of objectivity than psoriasis patients. Regarding a temperament of cyclic tendency and lack of cooperativeness, female atopic dermatitis patients showed significantly higher scores than female psoriasis patients. Regarding general activity, female atopic dermatitis patients showed significantly lower scores than those of female psoriasis patients. No significant difference in scores of temperaments of lack of agreeableness, rathymia, thinking extraversion, ascendance and social extraversion were detected among psoriasis patients, atopic dermatitis patients and healthy controls. The personalities of male psoriasis patients were significantly different from those of atopic dermatitis patients and healthy controls. Female psoriasis patients showed a significantly different personality profile from that of atopic dermatitis patients, but not from healthy controls. Japanese psoriasis and atopic dermatitis patients show distinct personality profiles suggesting that specific a psychosomatic approach may be required during the treatment.

Key words: atopic dermatitis, characteristics, personality, psoriasis, Yatabe–Guilford Personality Inventory.

INTRODUCTION

Psychosomatic factors have been implicated to be significantly involved in the onset and/or exacerbation of psoriasis^{1,2} and atopic dermatitis.^{3,4} Atopic dermatitis patients show a distinct personality profile including restlessness, insecurity, anxiety, emotional lability, rigidity, hostility, neuroticism, hypersensitivity and depression.^{5–7} In psoriasis, psychosomatic and psychosocial factors have been associated with suicide^{8,9} and an increased prevalence of alcoholism has been documented.¹⁰

Cloninger *et al.* defined the personality as being composed of two factors, temperament and character.¹¹ Temperament is defined as an automatic attitude caused by emotional warnings by innate being structure. Temperament consists of novelty seeking, harm avoidance, reward dependence and persistence. Character is defined as relatively unchanging and objectively

observed behavior. Character dimensions consist of self-directedness, cooperativeness and self-transcendence. According to the Cloninger *et al.*'s theory, personality is the result of interaction between genetic and environmental factors.

Although several studies have been performed in Caucasians,^{5,9} no study is available regarding the personality profiles of psoriasis and atopic dermatitis patients in Japan. Furthermore, most personality studies were performed using non-Japanese language-based psychometric questionnaires, such as the Minnesota Multiphasic Personality Inventory.¹² On the other hand, the Yatabe–Guilford Personality Inventory (YGPI),¹³ the modified Personality Inventory of Guilford, is accepted as an appropriate Japanese personality study in various disorders.¹⁴ In the present study using the YGPI, we analyzed and compared the personalities of psoriasis patients, atopic dermatitis patients and healthy controls.

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METHODS

Subjects

The study was performed from July to September 2010. Ninety-seven atopic dermatitis patients (53 male and 44 female), 51 psoriasis patients (31 male and 20 female) and 48 normal individuals (25 male and 23 female) were enrolled in this study. Atopic dermatitis was diagnosed according to the criteria of the Japanese Dermatology Association. These patients had been treated with topical corticosteroids, topical tacrolimus, moisturizers and antihistamines. The psoriasis patients were under the treatment of topical corticosteroids, topical vitamin D₃, cyclosporin, etretinate and phototherapy. No previous psychiatric disorders were detected among the patients or control groups. The study was approved by the Ethics Committee of Asahikawa Medical University; informed consent was obtained before the study.

Personality measures

The personality traits of all subjects were measured using the YGPI, the modified Personality Inventory of Guilford for the Japanese.¹⁵ The test is a questionnaire composed of 120 questions, self-reporting true/false/undetermined responses that are designed to assess the 12 dimensions of temperaments (i.e. depression, cyclic tendency, inferior feeling, nervousness, lack of objectiveness, lack of cooperativeness, lack of agreeableness, general activity, rathymia, thinking extraversion, ascendance and social extraversion). According to the scores, personality is defined as belonging to one of five personality groups: (i) average (a person has an average score of 12 dimensions in temperaments and shows ordinary personality); (ii) black list (a person tends to be emotionally unstable and extrovert); (iii) calm (a person tends to be emotionally stable and introvert); (iv) director (a person tends to be emotionally stable and extrovert); and (v) eccentric (a person tends to be emotionally unstable and introvert).

Statistics

The data were analyzed using Statview (Hulinks, Tokyo, Japan). The Mann–Whitney *U*-test and χ^2 -test were performed.

RESULTS

Characteristics of the patients and healthy control

Fifty-one psoriasis patients (31 male, 20 female), 97 atopic dermatitis patients (53 male, 44 female) and 48 healthy controls (25 male, 23 female) were enrolled in the study. The mean age of the patients psoriasis, atopic dermatitis and healthy controls was 30.6 ± 4.56 , 27.7 ± 8.65 and 32.2 ± 7.78 years, respectively. The duration of illness of psoriasis and atopic dermatitis was 2–28 years (average, 14.5) and 5–24 years (average, 12.6), respectively. There was no statistically significant difference in age among the three groups.

Difference of temperaments among psoriasis patients, atopic dermatitis patients and healthy controls

Regarding depression, male and female psoriasis patients showed significantly lower scores than those of atopic

dermatitis patients (Table 1), but not significantly lower than healthy controls. Regarding cyclic tendency, which reflects emotional instability, the scores of female atopic dermatitis patients were significantly higher than those of psoriasis, but not significantly different from healthy controls. There was no significant difference among male groups. Regarding feelings of inferiority, which reflect less confidence, the scores of both male and female psoriasis patients were significantly lower than those of atopic dermatitis, but not healthy controls. In the temperament of nervousness, male and female atopic dermatitis patients showed significantly higher scores than psoriasis, but were not significantly different from healthy controls. Regarding lack of objectivity showing the temperament of fancy and subjectiveness, male and female atopic dermatitis patients showed significantly higher scores than those of psoriasis. Regarding lack of cooperativeness showing the temperament of distrust and discontent against others, female atopic dermatitis patients showed significantly higher scores than those of psoriasis. In contrast, there was no significant difference in the scores among male groups. Lack of agreeableness showing a temperament of being short-tempered and impulsive was not significantly different among these groups. Regarding general activity, which reflects the temperament of mental and physical state, the scores of atopic dermatitis patients were significantly lower than those of psoriasis patients, but were not significantly different from healthy controls. Other temperaments, rathymia, thinking extraversion, ascendance and social extraversion showing high-spirited and non-serious, non-impulsive and non-contemplated, leadership and disobedience, friendly and sociable temperaments, respectively, were not significantly different among the groups.

Personality distinction among psoriasis patients, atopic dermatitis patients and healthy controls

According to the results of 12 temperaments scores, personalities were classified into five types: (A) a person has average score of 12 dimensions in temperaments and shows ordinary personality; (B) a person tends to be emotionally unstable and extrovert; (C) a person tends to be emotionally stable and introvert; (D) a person tends to be emotionally stable and extrovert; and (E) a person tends to be emotionally unstable and introvert.¹³ In male psoriasis patients, type D personality was significantly more prevalent than atopic dermatitis patients ($P = 0.011$) and healthy controls ($P = 0.013$) (Table 1). In female psoriasis patients, type D personality was significantly more prevalent than atopic dermatitis patients ($P = 0.016$), but not healthy controls ($P = 0.076$) (Table 2).

DISCUSSION

This study showed that the 12 dimensions of temperaments were not markedly different among psoriasis patients, atopic dermatitis patients and healthy controls. Previous reports revealed inconsistent results in other ethnic populations; psoriasis patients do not have any characteristic personality,^{15,16} or reveal a temperament of high depression.^{2,17} These studies were performed by single cross-sectional evaluation of person-

Table 1. Comparison of temperament dimensions among psoriasis patients, atopic dermatitis patients and healthy controls

Contents	Sex	Psoriasis	Atopic dermatitis	Healthy control
Depression	M/F	6.3 ± 1.5*/ 7.2 ± 1.3*	10.4 ± 1.1/ 11.5 ± 2.2	7.9 ± 2.4/ 8.3 ± 1.1
Cyclic tendency	M/F	7.4 ± 2.3/ 7.7 ± 1.5*	8.3 ± 2.1/ 11.3 ± 1.6	8.6 ± 1.9/ 7.8 ± 1.0
Feelings of inferiority	M/F	6.1 ± 1.2*/ 6.3 ± 1.3*	9.6 ± 1.9/ 9.7 ± 1.9	8.2 ± 4.1/ 8.1 ± 4.3
Nervousness	M/F	7.5 ± 3.6*/ 7.8 ± 3.3*	10.7 ± 1.4/ 11.1 ± 1.2	9.9 ± 2.2/ 8.3 ± 1.9
Lack of objectivity	M/F	6.2 ± 1.6*/ 7.5 ± 1.2*	9.3 ± 1.6/ 10.3 ± 1.3	7.3 ± 1.2/ 8.1 ± 1.4
Lack of cooperativeness	M/F	6.3 ± 1.6/ 5.8 ± 1.9*	7.8 ± 1.1/ 8.6 ± 1.3	7.9 ± 1.9/ 7.2 ± 1.7
Lack of agreeableness	M/F	9.5 ± 1.7/ 8.1 ± 1.3	9.7 ± 1.5/ 8.6 ± 1.6	9.8 ± 1.2/ 8.4 ± 1.3
General activity	M/F	12.1 ± 1.4*/ 12.2 ± 1.9*	10.7 ± 1.4/ 9.9 ± 1.8	11.3 ± 1.9/ 12.3 ± 1.6
Rhathymia	M/F	9.2 ± 1.6/ 9.5 ± 2.1	9.4 ± 2.1/ 10.3 ± 1.9	10.3 ± 2.0/ 10.2 ± 1.5
Thinking extraversion	M/F	10.3 ± 2.1/ 11.4 ± 1.3	10.1 ± 1.3/ 10.8 ± 1.5	9.7 ± 1.3/ 11.2 ± 1.5
Ascendance	M/F	10.7 ± 1.9/ 11.4 ± 2.0	10.2 ± 1.7/ 10.7 ± 1.3	10.3 ± 1.5/ 11.1 ± 1.6
Social extraversion	M/F	12.1 ± 1.2/ 12.5 ± 1.1	11.7 ± 1.2/ 11.9 ± 1.6	11.8 ± 2.2/ 12.3 ± 1.8

* $P < 0.05$ compared with atopic dermatitis. M, male; F, female.

Table 2. Distribution of personality types

	PS (%)	AD (%)	HC (%)
Male			
A	17.9	24.3	26.2
B	4.2	13.5	14.8
C	27.8	13.5	18.1
D	40.5*	21.6	27.9
E	9.0	27.1	13.0
Female			
A	25.0	11.5	18.4
B	9.4	29.5	14.3
C	9.4	21.3	19.4
D	46.8**	21.3	37.7
E	9.4	16.4	10.2

* $P < 0.05$, compared with AD and HC; ** $P < 0.05$, compared with AD. A, average; AD, atopic dermatitis; B, black list; C, calm; D, director; E, eccentric; HC, healthy controls; PS, psoriasis.

ality characteristics without consideration of sex. Our study was analyzed in terms of each sex, which showed distinctive findings. Statistical analysis of depression of both sexes revealed no difference between psoriasis patients and healthy controls (data not shown). Consistent with our results, Al-Ahmar and Kurban⁶ showed that atopic dermatitis patients show a temperament of depression.

In this study, female atopic dermatitis patients showed higher scores than those of psoriasis patients in cyclic dependency reflecting emotional instability. Previous reports showed that the personality of atopic dermatitis patients is characterized by insecurity and emotional lability, compatible with our results.^{5,6} Atopic dermatitis patients are known to scratch their own skin without pruritic sensation due to anxiety and stress. The cyclic dependency in atopic dermatitis patients may induce this behavior.

Bahmer *et al.*¹⁸ showed that psoriasis patients tend to undervalue their skills and abilities and their personality is likely a reflection of the chronic cosmetically disfiguring illness. In contrast, no report so far suggests a temperament of inferiority in atopic dermatitis patients. In the present study, we, for the first time, showed a temperament of inferiority in atopic dermatitis but not psoriasis patients. The difference between the results of ours and others¹⁶ may be due to the different personality inventory tests as well as the different ethnicity, which should be confirmed in future studies.

Previous studies revealed that atopic dermatitis patients have anxious and neurotic temperaments.^{6,7} Our study also disclosed that higher scores of nervousness. These characteristics may reflect rigid perfectionism, compulsive behavior without relaxation. The temperament of nervousness in atopic dermatitis also reflects hypersensitivity showing lack of objectiveness (Table 1). Furthermore, atopic dermatitis patients show a lower self-critical personality style,¹⁸ which may result in avoidance of social activity.

Lower scores of cooperativeness in atopic dermatitis compared with healthy controls or psoriasis patients have been described.^{7,18} In our study, the lack of cooperativeness in atopic dermatitis patients was more significant than that of psoriasis patients and healthy controls. These results indicate that atopic dermatitis patients are not satisfied showing a negative mood in their ordinary life.

Regarding the dimension of general activity, female psoriasis patients showed higher scores than female atopic dermatitis patients. A previous report showed that psoriasis patients have high measures of outward aggression, which is compatible with our result.¹⁹ Bahmer *et al.*¹⁸ reported that atopic dermatitis patients tend to reduce the risk of social criticism resulting in low general activity.

Typing of personality disclosed that psoriasis patients show a distinctive personality profile compared to atopic dermatitis patients and healthy controls. A previous report revealed that Korean atopic dermatitis patients have a personality with distinct feelings of inferiority compatible with our study.⁷ In psoriasis, several studies showed no difference in personalities,^{15,16,20} while others showed a slightly distinctive temperament such as depression and nervousness.^{2,17,19,21}

These personality examination studies have some limitations. First, the studies have been performed using different personality tests and performed with a single-time cross-sectional design. It is possible that certain temperament dimensions may be affected during the clinical course of the disease. Thus, prospective cohort studies to examine the alterations of characters of the same atopic dermatitis and psoriasis patients would be required. Second, the self-administered personality tests may be influenced by the patient's intention to show better personality conditions.¹³

In conclusion, the present study indicates that Japanese psoriasis and atopic dermatitis patients have distinct temperaments compared with healthy controls; male psoriasis patients show director type personalities and female atopic dermatitis patients show eccentric and black list type personalities. Understanding the temperaments and personalities would be essential in establishing a cooperative relationship between patients and doctors during the treatment of these chronic skin disorders.

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