

Skin Symptoms Related to Occupational Contact Dermatitis in Hairdressers: Questionnaire Results

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ABSTRACT. Since hairdressing is considered to be one of the professions in which occupational contact dermatitis most frequently occurs, we examined the frequency of allergic dermatological problems in hairdressers using a questionnaire. Although 10 to 20% of hairdressers were found to suffer from such problems, few of them appear to seek treatment for these problems. During training, emphases should therefore be placed on the importance of prevention and the use of gloves and appropriate solutions, especially for shampooing and permanent waving.

Key words: urticaria — atopic dermatitis — allergic rhinitis — pollen allergy — asthma

Occupational contact dermatitis has long been known to be an occupational hazard for hairdressers.¹⁻⁴⁾ Although the allergic problems of hairdressers have been reported upon in several case studies,⁵⁻¹⁰⁾ few analyses of their occurrence and contributing factors have been carried out.¹⁻⁴⁾ It is also suspected that most hairdressers suffering from only slight dermatitis do not seek medical help, and that only severe cases request treatment by dermatologists.

To examine the occurrence of allergic dermatological problems in hairdressers more closely, a survey of hairdressers was performed using a questionnaire.

SUBJECTS AND METHODS

Subjects

The subjects were 119 Japanese hairdressers working in Okayama, Kurashiki, and Soja cities in Okayama Prefecture, Japan.

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RESULTS

Background of subjects

As shown in Table 1, the median age of the subjects was 20 to 24 years old (37.0%) and the study population was dominantly female (M : F = 1.0 : 1.81). Most of the subjects had been working less than 10 years (63.0%), and 40.3% had worked in the industry for less than three years. The types of tasks they performed overlapped.

TABLE 1. Background of subjects

Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	others	Total					
Number	11	44	22	14	10	6	3	5	3	1	119					
Ratio (%)	9.2	37.0	18.5	11.8	8.4	5.0	2.5	4.2	2.5	0.8	100.0					
Gender	Male			Female				No answer			Total					
Number	36			65				18			119					
Ratio (%)	30.3			54.6				15.1			100.0					
Years in profession	~1	1	2	3	4	5	6	7	8	9	10	11-14	15-19	20-29	30~	total
Number	11	14	10	13	6	8	4	3	5	1	5	8	13	9	9	119
Ratio (%)	9.2	11.8	8.4	10.9	5.0	6.7	3.4	2.5	4.2	0.8	4.2	6.7	10.9	7.6	7.6	100.0
Type of tasks	Shampoo			Cut			Permanent Wave			Coloring			Others			
Yes (%)	91.6			63.0			69.7			82.4			85.7			
No (%)	8.4			37.0			30.3			17.6			4.3			
Total (%)	100			100			100			100			100			

Presence and combination of symptoms

As shown in Table 2, chapping was the most common symptom followed by itching, redness, and pain. The majority of subjects had experienced redness and pain in the past, but the frequency of itching and chapping had increased. As indicated in Table 3, all four symptoms had occurred in more than one fifth of the subjects. The next most frequent symptom was chapping only, followed by a combination of itching and chapping, and a combination of itching, pain, and chapping. Most of the hairdressers with these symptoms reported that they became worse in winter. Itching as a symptom was mentioned by 40.5% of older subjects versus 66.2% in younger subjects (below 30 years old). Chapping was mentioned as a symptom by 54.8% of the former subjects versus 77.9% of the latter ones. In addition, as shown in Table 4, these symptoms became worse particularly in winter season.

Symptomatic lesions

The sites where contact dermatitis lesions occurred are shown in Table 5. On the fingers, the dorsal side (41.2%) was affected more than the ball side (31.1%). On the hands as well, the dorsal side was affected more than the

TABLE 2. Symptoms

	Yes (%)	No (%)
Itching	57.1	42.9
Present	25.2	74.8
Past	37.0	63.0
Redness	28.6	71.4
Present	8.4	91.6
Past	21.0	79.0
Pain	36.1	63.9
Present	10.9	89.1
Past	26.1	73.9
Chapping	69.7	30.3
Present	30.3	69.7
Past	46.2	53.8

TABLE 3. Combination of symptoms

Symptoms	Itching	Redness	Pain	Chapping	Ratio (%)	
Yes(○)	○	○	○	○	21.0	
	○	○	○	×	0.8	
	○	○	×	○	4.2	
	○	○	×	×	—	
	○	×	○	○	10.1	
	○	×	○	×	—	
	○	×	×	○	14.3	
	○	×	×	×	6.7	
	or No(×)	×	○	○	○	—
		×	○	○	×	—
×		○	×	○	2.5	
×		○	×	×	—	
×		×	○	○	2.5	
×		×	○	×	1.7	
×		×	×	○	15.1	
×		×	×	×	21.0	

TABLE 4. Changes by season

ratio (%)	Yes	No	No Answer
	41.2	21.8	37.0
Winter ~ Spring	1.9 %		
Winter	85.0 %		
Summer	1.9 %		
Fall ~ Winter	3.8 %		
Dry seasons	3.8 %		
Change of seasons	3.8 %		

TABLE 7. Types of tasks being performed when symptoms appeared

Type	Ratio (%)
Shampooing	56.3
Winding	4.2
Permanent Waving	32.8
Coloring	6.7
Cold Waving	0.8
Hair treatment	0.8
Others	1.6
No Answer	30.3

TABLE 8. Treatment of symptoms

	Ratio (%)
No treatment/Enduring	28.6
Use of drugs on the market	35.3
Visits to a medical clinic	25.2
Change in the type of tasks	0.8
Others	11.8
	Usage of rubber gloves
	Frequent washing of the hands
	Usage of soaps for babies

TABLE 9. General allergic factors

	Ratio (%)
Urticaria	23.5
Present	5.9
Past	5.0
Atopic dermatitis	15.1
Present	8.4
Past	7.6
Allergic rhinitis / Pollen allergy	29.4
Present	22.7
Past	8.4
Asthma	10.9
Present	0.8
Past	10.1

Dealing with symptoms

Table 8 indicates how the subjects dealt with the symptoms. Only 25.2% of those affected had sought medical help.

General allergic factors

As shown in Table 9, the subjects were questioned about their general allergic status. Among four diseases; i.e., urticaria, atopic dermatitis, allergic

rhinitis/pollen allergy, and asthma, allergic rhinitis/pollen allergy (29.4%) was the disease most frequently coexisting with allergic conditions, followed by urticaria (23.5%), atopic dermatitis (15.1%), and asthma (10.9%). All of the subjects except one, who was found to have asthma, had been diagnosed in the past. However, the frequency of these other allergic conditions had increased, particularly allergic rhinitis/pollen allergy (14.3% higher than in the past).

DISCUSSION

The aim of this study was to elucidate the frequency of allergic dermatological disorders among hairdressers by a direct questionnaire. One way by which non-allergic chapping can be distinguished from allergic dermatitis is by its frequency on the dorsal side of the fingers and hands. Some 12.0% of subjects had lesions on the dorsal fingers and hands, but not on the palms. In addition, 10.2% had no symptoms on the fingers and palms, but lesions on the dorsal surface of the hands. These results indicate that one tenth to one fifth of hairdressers may have allergic dermatological disorders affecting their hands and/or fingers. However, as shown in Table 8, only one fourth of the subjects had visited a clinic. In addition, more than one fourth of the subjects presently had symptoms. Although the degree of infection in those who had not visited a clinic was not elucidated, the goal of prevention of occupational disorders should be complete prevention.

Regarding the general allergic background of these subjects, the frequency of general allergic conditions was higher than that in the general population. Since it is unlikely that persons with an allergic background tend to select hairdressing as a profession, the occupational environment may cause a hypersensitivity to various environmental antigens and make them more susceptible to general allergic diseases, such as pollen allergy and atopic dermatitis.

In conclusion, although one tenth to one fifth of hairdressers may have allergic dermatological problems, they do not appear to confront them, therefore, the importance of prevention and the use of gloves and appropriate solutions for shampooing and permanent waving should be more strongly emphasized during training in the profession.

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