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above were obtained in studies on persons who did not have nickel allergy.

We did not expect to find any correlation among the amounts of nickel in nails, hair and plasma. As mentioned above, there is a considerable lapse of time between the incorporation of nickel into nails and hair and the time of analysis. As nickel levels of nails and hair are dependent on such factors as growth rates and dietary habits, different sections of hairs and nails show different concentrations of nickel. Furthermore, different nails and hair from different sections of the scalp contain different amounts of nickel (13, 19, 25, 26, 27).

In conclusion, the levels of nickel in the toe-nails, hair and plasma of a group of nickel-hypersensitive persons were seen to be higher than the levels of non-nickel-hypersensitive controls. There was no difference between the two groups with regard to the levels of nickel in finger-nails.

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Use of Alternative Medicine by Patients with Atopic Dermatitis and Psoriasis

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In a questionnaire study at a university hospital in Norway, 227 of 444 patients with atopic dermatitis (51.1%) and 215 of 506 patients with psoriasis (42.5%) reported previous or current use of one or more forms of alternative medicine. Homoeopathy, health food preparations and herbal remedies were used most. Use was related to disease duration, disease severity and – among the atopic dermatitis patients – the inefficacy of therapy prescribed by physicians, as judged by the patients. The use of alternative medicine is commonplace and should be of concern to dermatologists. ***Key words: Complementary medicine; Homoeopathy; Skin disease; Questionnaire survey.***

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Alternative medicine – sometimes called complementary or supplementary medicine – may be defined as forms of therapy or examination that have no scientific basis and where no effect or diagnostic reliability have been demonstrated by scientific methods (1). Its use in dermatological conditions is described by Cotterill (2). Alternative medicine is attracting increasing attention in the mass media and among patients in many countries. It may complicate patient-doctor communication and reduce patient compliance regarding treatment recommended by doctors, leading to possible serious clinical complications (3), but the possibility of its therapeutic benefits cannot be ruled out. The use of alternative medicine should therefore be of concern to all physicians, including dermatologists.

Studies on the use of alternative medicine have been carried out among patients with rheumatological (4, 5) and other diseases (6, 7), in general population surveys (8, 9) and among alternative therapists and their patients (10–14). Few reports concern skin disease (3, 9, 15).

We have carried out a questionnaire study on the use of alternative medicine among patients with atopic dermatitis (AD) and psoriasis (Ps) in order to answer the following questions: How widespread is the use of alternative medicine? Is its use related to age, sex, disease duration, disease severity, or patients' evaluation of treatment provided by the medical profession? What forms of alternative medicine are used?

Material and methods

A self-administered questionnaire was constructed on the basis of a similar study among patients with rheumatological disease (4) and pretested among persons with and without skin disease. The questionnaire included 16 questions with closed answers. Disease duration is based on the year when the patients experienced the first symptoms of the skin disease, without consideration of spells of remission. The number of hospitalizations due to skin disease, as well as associated disease, are assumed to be related to disease severity. Data from patients' files were not included, and no clinical examinations were carried out.

Nine forms of alternative medicine were listed (Table I). The patients were asked if they had tried each of these, with three options: »have not tried«, »have tried before« and »using now«. The last two answers will be jointly referred to as »have tried« or »have used«. It was emphasized that treatment for conditions other than their skin disease should not be included. Parents were asked to fill in the questionnaire for children. Confidentiality was emphasized.

The questionnaire was sent to all (n = 1,085) patients registered during 1987 as having AD (n = 499) or Ps (including pustulosis palmo-plantaris) (n = 586) at the dermatological out-patient department of Rikshospitalet, Oslo, Norway. Non-respondents were sent one or two reminders. Of 966 returned questionnaires, 950 were accepted for analysis, giving a response rate of 87.6%, which was approximately the same in both patient groups. The age distributions of the two groups differed significantly, as shown in Table II. Among the respondents, 63.1% of the AD patients and 50.2% of the Ps patients were females. The age and sex distributions of the 135 non-respondents did not differ significantly from those of the respondents.

Statistical Analysis System (SAS) software (16) was used for statistical analysis. For multivariate analysis, the Grizzle-Starmer-Koch (GSK) linear model approach was applied (17). For bivariate analysis, χ^2-test and Fisher's exact test were applied (18). A significance level of 0.05% was used in all tests. All p-values are two-sided.

Table I. *Numbers and proportions of patients with atopic dermatitis (AD) and psoriasis (Ps) reporting use of various forms of alternative medicine*

	AD		Ps	
	n	%	*n*	%
Homoeopathy	147/432	34.0	88/491	17.9
Herbal remedies	79/425	18.6	92/489	18.8
Health food preparations	77/419	18.4	120/490	24.5
Diet change	77/424	18.2	57/491	11.6
Foot zone therapy	31/417	7.4	33/493	6.7
Acupuncture	50/420	11.9	37/494	7.5
Magnet therapy	9/417	2.2	13/490	2.7
Iris diagnosis	26/417	6.2	12/486	2.5
Hair mineral analysis	20/417	4.8	11/489	2.2
Other forms[1]	30/417	7.2	37/448	8.3

[1]includes chiropractice, anthroposophical medicine, healing, health food preparations other than those reported under the question concerning health food preparations, and various.

RESULTS

Among 444 patients with AD, 227 (51.1%) reported previous or current use of one or more forms of alternative medicine. This was significantly higher than among 506 patients with Ps where 215 (42.5%) reported such use, even when correcting for the different age and sex distributions of the two patient groups ($p < 0.01$).

The frequencies with which the nine forms of alternative medicine had been tried are shown in Table I. Homoeopathy was the most frequently used form of alternative medicine among patients with AD, whereas use of health food preparations was most often reported by patients with Ps.

The proportion of patients who had tried alternative medicine varies in accordance with several factors.

Disease duration

Patients with disease duration >10 years had tried alternative medicine more often than patients with disease duration ≤5 years (68.0% vs. 32.4% in the AD group and 47.8% vs. 31.4% in the Ps group; $p < 0.001$).

Disease severity

Hospitalized patients had tried alternative medicine more often than patients never hospitalized because of their skin disease (72.6% vs. 44.2% in the AD group and 52.8% vs. 35.4% in the Ps group; $p < 0.001$). A larger proportion of patients with both AD and allergic rhinitis or asthma had tried alternative medicine for their skin disease than had those with only AD ($p < 0.001$). Correspondingly, a larger proportion of patients with psoriasis and psoriatic arthritis had tried alternative medicine for their skin disease ($p < 0.001$).

Table II. *Numbers and proportions of patients with atopic dermatitis (AD) and psoriasis (Ps) in different age groups reporting use of alternative medicine*

	AD		*Ps*	
	n	%	*n*	%
1–15 years	60/137	43.8	12/ 29	41.4
16–30 years	110/213	51.6	40/ 94	42.6
31–45 years	51/ 82	62.2	71/134	53.0[1]
46–60 years	5/ 9	55.6	49/118	41.5
61– years	1/ 3	33.3	43/131	32.8[1]

[1] $p = 0.001$

Table III. *Numbers and proportions of patients with atopic dermatitis (AD) and psoriasis (Ps) who have tried alternative medicine grouped in accordance with their evaluation of physician-provided treatments*

	AD		Ps	
	n	%	*n*	%
Very good	21/ 49	42.9	40/102	39.2
Good	54/120	45.0	64/153	41.8
Some improvement	96/181	53.0	66/148	44.6
No change	44/ 73	60.3	29/ 67	43.4
Aggravation	9/ 13	69.2	11/ 19	57.9
Very good/good	75/169	44.4[1]	104/255	40.8[2]
No change/aggravation	53/ 86	61.6[1]	40/ 86	46.5[2]
No data	3/ 8		5/ 17	

[1] $p < 0.01$
[2] n.s.

Evaluation of physician/hospital therapy

Patients reporting "no change" or "aggravation" as a result of physician/hospital treatment had tried alternative medicine more often than those reporting "very good" or "good" results of physician/hospital treatment (Table III). However, the difference is significant only in the AD group ($p < 0.01$).

Age and sex

The largest proportion of patients having tried alternative medicine is found in the age group 31–45 years (Table II). There were no significant differences between males and females.

DISCUSSION

The Department of Dermatology of Rikshospitalet serves seven south-eastern counties of Norway (excluding Oslo) with a population of about 1.4 million. Patients are principally referred from general practitioners or other medical specialists. Although many of these patients may have moderate or only mild symptoms, the proportion having severe AD or Ps is presumably higher than in general practice, non-university dermatological practice or general population surveys (9).

Self-administered questionnaires with closed answers is a well established method in the social sciences (18) and in medicine (19). The assumption of reliability of the questionnaire is based partly upon the use of a similar questionnaire in a study among rheumatological patients where a supplementary qualitative study was performed (4). Moreover, the questionnaire – including the five-point scale for evaluation of physician-provided treatment – was constructed after a pilot study. The high response rate probably reflects a great interest in alternative medicine among the survey population. The number of non-respondents was low and probably does not influence the results.

Regardless of their dermatological diagnosis, 46.5% of the patients had tried alternative medicine. This number is comparable to other studies (4–8, 15) and confirms that many patients with chronic disease try alternative medicine.

Homoeopathy was the most frequently used form of alternative medicine among patients with AD, and is also used by many patients with Ps and by patients in other studies (3–7, 15). This is possibly a reflection of an increasing number of homoeopathic practitioners in recent years. Herbal remedies, used by many patients, are probably not distinguished from homoeopathic treatment by some (4). Use of health food preparations was most frequent among Ps patients. Change of diet was reported by many, but the nature and extent of these changes is unknown.

The results indicate that patients with AD are more liable to try alternative medicine than are patients with Ps. A possible explanation for this could be that AD patients are less satisfied with the effects of physician-provided treatment than are Ps patients. Fewer AD patients than Ps patients rate the results of physician/hospital treatment as "very good" or "good". Moreover, patients' evaluation of

physician/hospital treatment is a statistically significant decisive factor for trying alternative medicine *only* among those with AD (Table III).

The results indicate that there is a relationship between disease duration as well as disease severity, and use of alternative medicine. This implies that the absence of satisfactory treatment for AD and Ps is an important reason for most patients' trying alternative medicine.

Severe AD and Ps are disabling and uncomfortable diseases influencing the psychosocial life of the patients. Dermatologists should be aware of the fact that many AD and Ps patients try alternative treatments, and understand those who do so. To practitioners of alternative medicine, however, we should continue to ask for documentation of the possible effects of alternative medicine or other rationale for its use.

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Alternative Therapy for Atopic Dermatitis and Psoriasis: Patient-reported Motivation, Information Source and Effect

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In a questionnaire study, 227 patients with atopic dermatitis and 215 with psoriasis, who had used alternative medicine, were asked to state their main reason for trying alternative medicine. The answers indicated that the absence of satisfactory effect of physician-provided therapy was the most decisive factor. Their main information sources on alternative therapies were persons without skin disease, and the mass media. The majority reported no improvement, or even aggravation of their skin disease, as a result of alternative treatments (except for diet changes). These findings emphasize the need for documentation of effect of alternative medicine, as well as for further research and education efforts in order to improve therapy for atopic dermatitis and psoriasis. ***Key words: Complementary medicine; Homoeopathy; Skin disease; Patient evaluation; Mass media.***

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Many patients with chronic skin diseases, such as atopic dermatitis (AD) and psoriasis (Ps), try various forms of alternative medicine (1, 2). We were interested in ascertaining patients' motives for seeking alternative medicine, how forms of alternative medicine had been brought to their attention, and the patients' opinion of the effects of such treatments.

MATERIAL AND METHODS

In a questionnaire study among out-patients at the Department of Dermatology at Rikshospitalet, Oslo, Norway, 227 AD patients and 215 Ps patients reported use of alternative medicine (1). By questionnaire, these patients were asked to state their main reason for trying alternative therapy (with five closed alternatives and one open), to state their main source of information on alternative therapy (with five closed alternatives and one open), and to evaluate its effect on a five-point scale. The closed answers were formulated after a pilot study. Separate answers were to be given for each form of alternative medicine.

Only results regarding homoeopathy, herbal remedies, health food preparations, diet changes, and acupuncture will be reported here, results regarding foot zone therapy, magnet therapy, iris diagnosis and hair mineral analysis

Table I. *Reasons for trying alternative medicine reported by patients with atopic dermatitis (AD) and psoriasis (Ps) (all values are percentages)*

Question: You probably have many reasons for trying this treatment. What is, in your opinion, the main reason?

	Homoeopathy		Herbal remedies		Health food prep		Diet changes		Acupuncture	
Diagnostic group	AD	Ps	AD	Ps	AD	Ps	AD	Ps	AD	Ps
Used by (numbers of patients)	147	88	79	92	77	120	77	57	50	37
Question answered by	142	80	72	82	73	103	70	53	47	33
Poor results of physician/hospital therapy	37	26	21	13	26	11	23	8	26	18
Side effects of physician/hospital therapy	10	5	11	3	8	9	3	17	4	6
Doctors are not concerned enough about my case	8	8	4	5	7	5	3	11	4	3
Own confidence in therapy	4	8	7	15	8	13	23	15	13	6
I wish to try everything	39	51	54	62	48	61	39	45	51	61
Other	1	0	3	1	3	2	10	4	2	6