


Determining the use of herbal treatment by dermatology patients

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Abstract

This descriptive study was conducted to determine the use of herbal treatment by dermatology patients. The study involved 146 patients who were treated in the dermatology department of a university hospital between 26/11/2017 and 26/05/2018 and agreed to participate in the study. Data were collected using a 29-question information questionnaire prepared by the researchers based on the literature. In addition, a list of plants was given to the patients in the appendix of the information sheet. The Mann-Whitney U test and the Kruskal-Wallis's test were used to compare the data. The Pearson Chi-square test was used to analyze the relationship between the variables. The present study found that the majority of patients were satisfied with the medical treatment they received. It was found that patients who use complementary alternative methods in addition to medical treatment told health professionals about their current situation or felt that information should be given.

Keywords: Dermatology; herbal; nurses; therapy

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1. Introduction

Alternative medicine refers to methods used in place of medical practices that we characterize as scientific. Complementary medicine is described as approaches that accompany or complement these scientific methods. In other words, if the procedures used as treatment methods are used instead of medical treatments, they are called alternative medicine, and if they accompany medical treatments, they are called complementary medicine [1,2].

There may be different reasons why complementary and alternative medicine is desired by patients [3,4]. Most individuals generally use these methods to cure the disease they have, alleviate the different symptoms they experience, and better manage the disease process [5-8]. In addition, these methods may also be utilized due to the high costs of some medical procedures and medication or difficulties in accessibility [6].

Herbal therapies are among complementary and alternative treatment methods. Especially the evaluation of herbal treatments as natural increases the sense of trust in patients and leads to more use of them [4-6] [9,10]. However, this method may cause harmful effects as well as beneficial effects for patients [11]. In this direction, for the ongoing medical treatment to be of benefit to the patient, health professionals who manage the medical process should have sufficient knowledge about the herbal treatment methods used by the patient [2,6,12].

Complementary and alternative medicine methods are among the commonly used treatment methods in dermatology patients [11,13,14]. However, considering traditional and cultural differences, these methods remain mysterious. Therefore, it is thought that it is important for health professionals to have high knowledge and awareness about the use of herbal treatment, which is one of the complementary and alternative treatment methods, and to inform patients about the effects and side effects of these treatments by evaluating patients with an unprejudiced approach [15-17]. Therefore, in line with the findings of this study, it is aimed to determine the use of herbal treatment by dermatology patients and to increase their awareness of this issue.

1.1. Purpose of the study

In this study conducted to determine the use of herbal treatment by dermatology patients, answers to the following questions were sought.

- What are the sociodemographic and clinical characteristics of the patients?
- What is the level of patients' use of complementary and alternative medicine?
- What are the factors affecting the level of patients' use of complementary and alternative medicine?
- What is the level of herbal treatment used by patients?
- What are the factors affecting patients' level of herbal treatment use?

2. Material and methods

This descriptive study was conducted between 26.11.2017 and 26.05.2018 with the participation of patients (n= 146), who were being treated in the dermatology service of a university hospital, and who agreed to participate in the study.

2.1. Participants

When determining the sample size of the study, the formula used to determine the number of individuals where the population is known was utilized [18]. The population of the study consisted of 180 patients treated in the dermatology service of a university hospital in the last month. The sample size was calculated as 138 people with a 5% error at a 95% confidence limit. However, considering the possibility of data loss, the collection process was completed with 146 patients. Voluntary patients who agreed to participate in the study were included.

2.2. Data collection tools

Data were collected with a 29-question information sheet prepared by the researchers in line with the literature and a 24-item table questioning the purpose of use of the herbs, whether they had been heard of them before, and when the herb was used. A pilot study was conducted with a group of 10 patients to evaluate the effectiveness of the questionnaire form. Patients who participated in the pilot study weren't included in the study sample.

2.3. Data collection and ethics

Before starting the study, ethics committee permission was obtained from the university's clinical research ethics committee (Number: 2017/ 2020-225 Date: 26.10.2017). It was explained to the patients that the decision whether or not to participate in the study was entirely their own and that they had the right to leave the study at any time. It was also stated that the data to be collected from this study would only be used within the scope of the research. Verbal consent was obtained from patients who agreed to participate in the study. Research data were collected by face-to-face interview method. The data collection process was completed in approximately 15-20 minutes.

2.4. Data analysis

The data obtained in this study were analyzed using the IBM SPSS 21 package program. The conformity of quantitative data to normal distribution was evaluated by Shapiro-Wilk and Kolmogorov Smirnov. The Pearson Chi-Square test was used to analyze the relationship between variables. Significance was evaluated at $p < 0.05$ level.

3. Results

It was determined that 25.4% of the patients who participated in the study were in the age range of 60-69 years, 54.1% were male, 81.5% were married, 79.5% had a large family structure, 34.9% had 3-4 children, 41.8% were primary school graduates, 45.2% had income less than expenses, 93.2% had social security, and 52.1% lived in a provincial center (Table I).

TABLE I
DISTRIBUTION OF SOCIODEMOGRAPHIC CHARACTERISTICS OF PATIENTS (N=146)

Characteristics	n	%	
Age (53.96 ± 17.04)	15-29	19	13.0
	30-39	11	7.5
	40-49	19	13.0
	50-59	34	23.3
	60-69	37	25.4
	70-79	19	13.0
	80-89	7	4.8
Gender	Female	67	45.9
	Male	79	54.1
Marital status	Married	119	81.5
	Single	27	18.5
Family type	Nuclear family	30	20.5
	Extended family	116	79.5
Number of children	None	26	17.8
	1-2	49	33.6
	3-4	51	34.9
	5 and above	20	13.7

Education	Illiterate	12	8.2
	Literate	13	8.9
	Primary School	61	41.8
	Middle School	14	9.6
	High School	30	20.5
	University	16	11.0
Income	Income less than expenses	66	45.2
	Income equal to expenses	56	38.4
	Income higher than expenses	24	16.4
Social security	Yes	136	93.2
	No	10	6.8
Longest lived settlement	Province	76	52.1
	District	51	34.9
	Village	19	13.0

It was found that 16.5% of the patients were treated with a diagnosis of dermatitis, 89% were satisfied with the medical treatment they received for their disease, 57.5% knew that another treatment method other than medical treatment was used, 54.1% were recommended complementary and alternative treatment methods other than medical treatment by their neighbors (55.7%), 71.7% did not use complementary and alternative treatment methods other than medical treatment, but 82.9% of the patients who used this method preferred herbal oils and used them for an average of 328 days.

Of the patients who used complementary and alternative treatment methods, 43.9% continued to use these methods during the treatment process, 65.9% used these methods because they thought that these methods could be useful, 56.1% used complementary and alternative methods together with medical treatment, 75.6% informed their physician and other healthcare professionals about their use of complementary and alternative methods, 80% thought that complementary and alternative treatment methods did not cause side effects, 76.7% found the medical treatment more effective, 42.1% of the patients who received information about treatment methods other than medical treatment received information from healthcare professionals, and approximately half of them wanted to receive information about this subject.

However, it was determined that 69.9% of the patients thought that herbal medicines were not safe, 93.2% thought that the doctor should be informed about the use of these, 78.1% thought that medical treatment and herbal medicines could interact and cause side effects, and 89.7% believed that medical medicines were more effective than herbal medicines. It was found that 50% of the patients who used herbal treatment mostly used green tea and ginger herbs for treatment (48%), and 48% continued to use herbs during the treatment period (Table II).

TABLE II
DISTRIBUTION OF CLINICAL CHARACTERISTICS OF PATIENTS

Characteristics	n	%
Angioedema	2	1.4
Behçet	3	2.1
Dermatitis	24	16.5
Drug eruption	10	6.9
Itching	2	1.4
Oral mucositis	7	4.8
Pemphigus vulgaris	15	10.4
Pruritus	9	6.2
Psoriasis vulgaris	3	2.1
Cellulitis	21	14.5

	Urticer	17	11.7
	Vasculitis	11	7.6
	Venous ulcer	7	4.8
	Burns	3	2.1
	Zona	4	2.7
	Others	7	4.8
Satisfaction with the medical treatment received for the disease	Yes	130	89.0
	No	16	11.0
Knowledge of any treatment method other than medical treatment for the disease	Yes	84	57.5
	No	62	42.5
Complementary and alternative treatment methods other than medical treatment recommended by others	Yes	79	54.1
	No	67	45.9
Who recommended complementary and alternative treatment methods other than medical treatment*	Relatives	33	41.8
	Neighbors	44	55.7
	Health professional	8	10.1
	Other patients' families	7	8.9
	Radio and television	16	20.3
	Internet	6	7.6
Use of complementary and alternative treatment methods other than medical treatment	Yes	41	28.3
	No	105	71.7
Most commonly used alternative treatment methods other than medical treatment*	Herbal oils	34	82.9
	Herbal teas	2	4.9
	Herbal soap	1	2.4
	Clay products	5	7.4
	Vitamin pills	1	2.4
Duration of use of complementary and alternative treatment methods other than medical treatment		328.05 ± 1.01 days	
When were the complementary and alternative treatment methods other than medical treatment used	Still using	18	43.9
	1 – 2 months ago	16	39.1
	3 – 6 months ago	3	7.3
	7 – 11 months ago	1	2.4
	1 year ago	3	7.3
Reason for using treatment methods other than medical treatment*	Because we didn't get the results we wanted from medical treatment	5	12.2
	Because others tried it and were satisfied	12	29.3
	Because we were curious	10	24.4
	Because we thought it might be useful	27	65.9
	To try every treatment possible	13	31.7
	To strengthen the immune system	3	7.3
	To slow the progression of the disease	9	22.0
	To relax psychosocially	8	19.5
	To eliminate symptoms such as colds and flu that are not related to the disease	9	22.0
	Use of complementary and alternative treatment methods together with medical treatment methods	Yes	23
No		18	43.9
Sharing the use of complementary and alternative therapies with their doctor or other health professionals	Yes	31	75.6
	No	10	24.4
	Yes	8	20.0

Whether complementary and alternative therapies have side effects according to the individual	No	33	80.0
Which treatment method they think is more effective	Medical treatment	112	76.7
	Complementary treatment	-	-
	Both	34	23.3
From which source did they receive information about treatment methods other than medical treatment*	Newspapers and magazines	3	15.8
	Medical books and articles	3	15.8
	Other health professionals	8	42.1
	Other people in the clinic	7	36.8
	Other (Relatives, Herbalist, Neighbours, Television)	6	4.2
Willingness to receive information about complementary methods	Yes	74	50.7
	No	72	49.3
Safety of herbal medicine according to the individual	Yes	44	30.1
	No	102	69.9
I think it is necessary to inform the doctor about the herbal medicine usage	Yes	136	93.2
	No	10	6.8
Interaction of herbal medicines and medicinal drugs and side effects according to the individual	Yes	114	78.1
	No	32	21.9
Individuals believe that herbal medicines are more effective than other medicines	Yes	15	10.3
	No	131	89.7
Name of the herb used*	Green Tea	7	50.0
	Rosehip	2	14.3
	Black Mulberry	5	35.7
	Flaxseed	1	7.1
	Mint	3	21.4
	Blackberry	1	7.1
	Chamomile	2	14.3
	Ginger	7	50.0
	Lemon	2	14.3
	Sage	3	21.4
	Cinemaki	1	7.1
	Nettle	2	14.3
	Onion	5	35.7
	Garlic	4	28.6
	Cinnamon	3	21.4
Linden	6	42.8	
Reason for using the herb*	Parsley	3	21.4
	Olive oil soap	3	18.8
	To reduce pain	4	16.0
	As anticoagulant	1	4.0
	For strength during illness	2	8.0
	To strengthen the immune system	2	8.0
	To feel better/relaxed	4	16.0
	For treatment	12	48.0
When was the herb used	Currently using	11	48.0
	Used before	10	44.0
	Always using	2	8.0
Where other herbs used	Yes	16	11.0
	No	130	89.0

*More than one answer was given.

The relationship between the sociodemographic characteristics of the patients and their use of complementary and alternative treatment methods other than medical treatment is shown in Table

3. According to the results of the study, it was found that education level (X^2 : 15.209, $p < 0.05$) and income level (X^2 : 9.535, $p < 0.05$) affected the patients' use of complementary and alternative treatment methods other than medical treatment, and there was no statistically significant difference between the use of complementary and alternative treatment methods other than medical treatment and other sociodemographic characteristics ($p > 0.05$) (Table III).

TABLE III
THE RELATIONSHIP BETWEEN THE SOCIODEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS AND THEIR USE OF COMPLEMENTARY AND ALTERNATIVE TREATMENT METHODS OTHER THAN MEDICAL TREATMENT

Characteristics	Yes		No		Total		X^2	p	
	n	%	n	%	n	%			
Age	15-29	7	36.8	12	63.2	19	100	9.396	0.152
	30-39	3	27.3	8	72.7	11	100		
	40-49	7	36.8	12	63.2	19	100		
	50-59	11	32.4	23	67.6	34	100		
	60-69	7	18.9	30	81.1	37	100		
	70-79	2	10.5	17	89.5	19	100		
	80-89	4	57.1	3	42.9	7	100		
Gender	Female	22	32.8	45	67.2	67	100	1.277	0.258
	Male	19	24.4	60	75.6	79	100		
Marital Status	Married	34	28.6	85	71.4	119	100	0.029	0.866
	Single	7	26.0	20	74.0	27	100		
Family type	Nuclear family	30	26.0	85	74.0	115	100	0.055	0.814
	Extended family	11	35.4	20	64.6	31	100		
Number of children	None	7	27.0	19	73.0	26	100	0.256	0.968
	1 – 2	15	30.6	34	69.4	49	100		
	3 – 4	14	27.4	37	72.6	51	100		
	5 and above	5	25.0	15	75.0	20	100		
Education	Illiterate	1	8.3	11	91.7	12	100	15.209	0.010
	Literate	-	-	13	100.0	13	100		
	Primary school	19	31.1	42	68.9	61	100		
	Middle school	4	28.6	10	71.4	14	100		
	High school	8	26.7	22	73.3	30	100		
	University	9	60.0	7	40.0	16	100		
Income	Income lower than expenses	27	40.9	39	59.1	66	100	9.535	0.009
	Income equal to expenses	10	17.9	46	82.1	56	100		
	Income higher than expenses	4	17.4	20	82.6	24	100		
Social Security	Yes	37	27.2	99	72.8	136	100	1.237	0.266
	No	4	44.4	6	55.6	10	100		
Longest lived settlement	Province	22	29.3	54	70.7	76	100	0.563	0.755
	District	15	29.4	36	70.6	51	100		
	Village	4	21.1	15	78.9	19	100		

X^2 : Pearson Chi-Square

The relationship between patients' sociodemographic characteristics and their satisfaction with medical treatment is shown in Table 4. According to the results of the study, it was found that the presence of social security (X^2 : 9,279, $p < 0.05$) affected the patients' satisfaction with medical treatment, and there was no statistically significant difference between the patient's satisfaction with medical treatment and other sociodemographic characteristics ($p > 0.05$) (Table IV).

TABLE IV

THE RELATIONSHIP BETWEEN PATIENTS' SOCIODEMOGRAPHIC CHARACTERISTICS AND THEIR SATISFACTION WITH MEDICAL TREATMENT

Characteristics	Yes		No		Total		X ²	p	
	n	%	n	%	n	%			
Age	15-29	16	84.2	3	15.8	19	100	1.386	0.967
	30-39	10	90.9	1	9.1	11	100		
	40-49	17	89.5	2	10.5	19	100		
	50-59	30	88.2	4	11.8	34	100		
	60-69	33	89.2	4	10.8	37	100		
	70-79	17	89.5	2	10.5	19	100		
	80-89	7	100	-	-	7	100		
Gender	Female	61	91.0	6	9.0	67	100	0.509	0.475
	Male	69	87.3	10	12.7	79	100		
Marital status	Married	107	89.9	12	10.1	119	100	0.505	0.477
	Single	23	85.2	4	14.8	27	100		
Family type	Nuclear family	102	87.9	14	12.1	116	100	0.713	0.398
	Extended family	28	93.3	2	6.7	30	100		
Number of children	None	22	84.6	4	15.4	26	100	1.312	0.726
	1 – 2	44	90.0	5	10.0	49	100		
	3 – 4	45	88.2	6	11.8	51	100		
	5 and above	19	95.0	1	5.0	20	100		
Education	Illiterate	11	91.7	1	8.3	12	100	1.108	0.953
	Literate	11	84.6	2	15.4	13	100		
	Primary school	54	88.5	7	11.5	61	100		
	Middle school	13	92.9	1	7.1	14	100		
	High school	26	86.7	4	13.3	30	100		
	University	15	93.7	1	6.3	16	100		
Income	Income lower than expenses	62	93.9	4	6.1	66	100	3.181	0.204
	Income equal to expenses	47	83.9	6	16.1	53	100		
	Income higher than expenses	21	87.5	3	12.5	24	100		
Social Security	Yes	124	91.2	12	8.8	136	100	9.279	0.002
	No	6	60.0	4	40.0	10	100		
Longest lived settlement	Province	64	84.2	12	15.8	76	100	3.796	0.150
	District	48	94.1	3	5.9	51	100		
	Village	18	94.7	1	5.3	19	100		

X²: Pearson Chi-Square

4. Discussion

The findings of this study, which was conducted to determine the use of herbal treatments by inpatients in the dermatology service of a university hospital, are discussed in line with the relevant literature.

It was observed that almost all of the patients in this study were satisfied with the medical treatment they received, approximately half of them had information about treatment methods other than medical treatment methods, received information about complementary and alternative treatment methods from neighbors and relatives, and the majority of patients did not use other treatment methods other than medical treatment. In support of our research findings, Mullaaziz et al. [19] reported that patients preferred medical treatment more, which may be because patients find medical treatment more effective than complementary and alternative treatment. Additionally, in line

with our research findings, Mullaaziz et al. [19] reported that patients were informed about complementary and alternative methods by their relatives and friends.

It is reported in the literature that complementary and alternative treatment methods can change the resistance of drugs used in the treatment process and cause side effects. Accordingly, many patients may be concerned about using these two methods together [19,20]. Furthermore, studies on dermatology patients indicate that complementary and alternative methods used to support treatment or disease processes may cause new dermatologic problems in addition to their benefits [20,21].

In this study, it was observed that patients with social security had a higher level of satisfaction with the medical treatment they received than patients without social security, and patients with primary school education and those whose income was less than their expenses benefited more from complementary and alternative treatment methods. It is thought that this may be due to patients who do not have social security or whose income is less than their expenses having lower access to health systems and lower levels of affordability of the treatment/drug costs used.

In contrast to our research findings, a study on this subject reported that patients with a higher level of education use complementary and alternative methods more. In the same study, it is stated that patients use these methods to achieve satisfactory results quickly regarding the treatment of the disease [19]. This difference between our research findings and the literature may be due to the difference in sociodemographic and clinical characteristics of the patients and their expectations in the treatment process.

In line with the findings obtained from the study, it was determined that approximately half of the patients who used complementary and alternative methods continued to use these methods during the treatment process because they thought that these methods could be beneficial and would not have side effects. It was also observed that the majority of these patients informed healthcare professionals about the complementary and alternative methods they used. In some studies supporting our research findings, it has been reported that complementary and alternative methods are preferred more by patients because they are seen as natural and reliable, have low cost, and are thought to have fewer side effects [20] [22-24].

In this study, patients who preferred complementary and alternative methods were hesitant to use herbal medicines because they thought herbal medicines weren't safe and could interact with medical treatment. They also thought that there could be severe consequences if they used herbal medicines and that the situation should be reported to health professionals. In addition, patients preferred using herbal oils among complementary and alternative methods. Green tea and ginger were preferred by patients who used herbal treatment. Results showed that patients used these herbs for treatment purposes and continued to benefit from them during the treatment process. A study conducted on this subject revealed that herbal medicines are among the frequently used complementary and alternative methods in dermatology patients [20].

The herbal methods used by individuals may vary from country to country [19]. Although the usage of herbal medicines varies, these methods are still thought to be effective on dermatology patients. However, some studies on this subject reveal that these drugs can harm patients as well as their effects. Therefore, it is recommended that herbal methods used on dermatology patients be investigated in more detail, and patients should report the herbal methods they use to health professionals [20] [24-26].

5. Conclusion

This study observed that patients used herbal oils, albeit not finding herbal medicines safe. In some studies on this subject, it has been reported that herbal oils may differ according to the developmental period, usage rate, and individuals and may cause serious harm as well as beneficial

effects on dermatology patients. Therefore, it is extremely important to inform dermatology patients about the benefits and possible risks of complementary and alternative treatment methods and herbal treatments.

This study showed that most patients were satisfied with the medical treatment they received and also used herbal oils, albeit not finding herbal medicines safe. In this direction, it is recommended to conduct studies with a high level of evidence in a larger population.

References

- [1] NIH (National Center for Complementary and Integrative Health). (2021). <https://www.nccih.nih.gov/health/complementary-alternative-or-integrative-health-whats-in-a-name-2023>, Erişim Tarihi: 20.03.2023.
- [2] S. L. Siedlecki, "Complementary and alternative therapies (CAT) in academic programs and nursing practice: Is more education is needed?" *Complementary Therapies in Clinical Practice*, vol. 43, p. 101327, 2021. <https://doi.org/10.1016/j.ctcp.2021.101327>.
- [3] A. Laar, Amoah E. Ampah, Y. Fernandez, G. Senyo Amevinya, P. Nortey, F. Benyah, J. Akamah, M. Ambenne, P. Lamptey, C. Free, H. Legido-Quigley, & P. Perel, "What the herbal medicine can do for me in a week, the orthodox does in a year: Perceived efficacy of local alternative therapies influences medication adherence in patients with atherosclerotic cardiovascular disease," *Health Expectations*, vol. 24, no. 2, pp. 444-455, 2021. <https://doi.org/10.1111/hex.13185>
- [4] Q. Zhao, R. Guo, Z. Fan, L. Hu, Z. Hu, Y. Liu, "Medical Conditions and Preference of Traditional Chinese Medicine: Results from the China Healthcare Improvement Evaluation Survey," *Patient Prefer Adherence*, vol. 17, pp. 227-237, 2023. <https://doi.org/10.2147/PPA.S398644>
- [5] D. Al-Tawalbeh, R. Bdeir, & J. Al-Momani, "The use of medicinal herbs to treat male infertility in Jordan: evidence-based review," *International Journal of Pharmaceutical Research & Allied Sciences*, vol. 12, no. 1, pp. 66-74, 2023. <https://doi.org/10.51847/42rWHfIT62>
- [6] J. H. Martin, & J. Patel, "Complementary and alternative therapies in the palliative setting," *Internal Medicine Journal*, vol. 52, no. 10, pp. 1677-1684, 2022. <https://doi.org/10.1111/imj.15922>
- [7] H.M. Al-Atif, H.S. AL-Ghamdi, W.A. Alzubaidi, N.M. Alnaem, & S.H. Qahtani "The Prevalence of Complementary and Alternative Medications Use Among Dermatology Patients in Aseer Region, Saudi Arabia," *Clin Cosmet Investig Dermatol*, vol. 15, pp. 2607-2615, 2022. <https://doi.org/10.2147/CCID.S381199>
- [8] C. E. Bax, S. Chakka, J. S. S. Concha, M. Zeidi, & V. P. Werth, "The effects of immunostimulatory herbal supplements on autoimmune skin diseases," *Journal of the American Academy of Dermatology*, vol. 84, no. 4, pp. 1051-1058, 2021. <https://www.sciencedirect.com/science/article/pii/S0190962220311014>
- [9] T. Asakawa, "Focusing on development of novel sampling approaches and alternative therapies for COVID-19: Are they still useful in an era after the pandemic?" *BioScience Trends*, vol. 16, no. 6, pp. 386-388, 2022. <https://doi.org/10.5582/bst.2022.01506>
- [10] H. Kim, H. G. Jo, J. H. Hwang, & D. Lee, "Integrative medicine (East Asian herbal medicine combined with conventional medicine) for psoriasis: A protocol for systematic review and meta-analysis," *Medicine*, vol. 102, no. 3, p. e32360, 2023. <https://doi.org/10.1097/MD.00000000000032360>
- [11] J. I. Hwang, J. W. Park, J. Kim, & N. Y. Ha, "Performance of Early Warning Scoring Systems Regarding Adverse Events of Unanticipated Clinical Deterioration in Complementary and Alternative Medicine Hospitals," *Asian Nursing Research*, vol. 17, no. 2, pp. 110-117, 2023. <https://www.sciencedirect.com/science/article/pii/S197613172300018X>
- [12] W. Worakunphanich, W. Suwankesawong, S. Youngkong, M. Thavorncharoensap, C. Anderson, & L. S. Toh, Thai stakeholders' awareness and perceptions of the patient adverse event reporting

- system for herbal medicines: a qualitative study. *International Journal of Clinical Pharmacy*, pp. 1-11, 2023. <https://doi.org/10.1007/s11096-022-01533-1>.
- [13] K. Shi, & P. A. Lio, "Alternative treatments for atopic dermatitis: an update. *American Journal of Clinical Dermatology*", vol. 20, pp. 251-266, 2019. <https://doi.org/10.1007/s40257-018-0412-3>.
- [14] K. N. Price, A. M. Thompson, O. Rizvi, A. J. Hendricks, A. Alavi, J. L. Hsiao, & V. Y. Shi, "Complementary and alternative medicine use in patients with hidradenitis suppurativa," *Jama Dermatology*, vol. 156, no. 3, pp. 345-348, 2020. <https://doi.org/10.1001/jamadermatol.2019.4595>.
- [15] K. Peltzer & S. Pengpid "A survey of the training of traditional, complementary, and alternative medicine in universities in Thailand," *J Multidiscip Healthcare*, vol. 12, pp. 119-124, 2019. <https://doi.org/10.2147/JMDH.S189644>
- [16] T. Tsele-Tebakang, H. Morris-Eyton, & E. Pretorius, "Herb-drug interactions: Perception and revelations of nurses in primary healthcare clinics, South Africa," *International Journal of Africa Nursing Sciences*, vol. 16, p. 100409, 2022. <https://www.sciencedirect.com/science/article/pii/S2214139122000166>
- [17] Ö. Erkin, & Ö. Aygün, "Effects of an education intervention on nursing students' knowledge and attitudes regarding skin self-examination and skin cancer risks," *Journal of Nursing Research*, vol. 28, no. 1, p. e62., 2020. https://journals.lww.com/jnr-twna/Fulltext/2020/02000/Effects_of_an_Education_Intervention_on_Nursing.4.aspx
- [18] Y. Öztürk "Pap smear testi yaptırmamış kadınların bu teste yönelik farkındalıklarının ve testi yaptırmama nedenlerinin değerlendirilmesi," Eskişehir Osmangazi Üniversitesi Sağlık Bilimleri Enstitüsü, Eskişehir, Yüksek Lisans Tezi, 2017.
- [19] D. Mullaaziz, V. B. Akkaya, & İ. Erturan, "Evaluation of the use of complementary and alternative therapy in patients with psoriasis and acne vulgaris," *Turkish Archives of Dermatology & Venerology/Turkderm*, vol. 53, no. 2, pp. 60-64, 2019. <https://doi.org/10.4274/turkderm.galenos.2018.34966>
- [20] R. Mustarichie, T. Rostinawati, D. A. E. Pitaloka, N. M. Saptarini, & Y. Iskandar, "Herbal therapy for the treatment of seborrhea dermatitis," *Clinical, Cosmetic and Investigational Dermatology*, vol. 15, pp. 2391-2405, 2022. <https://doi.org/10.2147/CCID.S376700>.
- [21] H. Gopinath, & K. Karthikeyan, "Neem in dermatology: Shedding light on the traditional - panacea," *Indian Journal of Dermatology*, vol. 66, no. 6, pp. 706, 2021. https://doi.org/10.4103/ijd.ijd_562_21
- [22] U. V. Doan, T. T. T. Nguyen, T. A. Nguyen, V. H. Lam, D. T. Truong, & X. T. Phan, "Lactic acidosis had developed in diabetic patients receiving herbal therapy," *MedPharmRes*, vol. 5, no. 2, pp. 22-28, 2021. <https://doi.org/10.32895/UMP.MPR.5.2.5>.
- [23] N. Dabholkar, V. K. Rapalli, & G. Singhvi, "Potential herbal constituents for psoriasis treatment as protective and effective therapy," *Phytotherapy Research*, vol. 35, no. 5, pp. 2429-2444, 2021. <https://doi.org/10.1002/ptr.6973>
- [24] D. M. Reddy, & V. Jain, "An overview on medicinal plants for the treatment of acne," *J. Crit. Rev*, vol. 6, no. 6, pp. 7-14, 2019.
- [25] A. Amalia, & S. Sulistiyowati, "The effect of banana skin on acne vulgaris," *Jurnal Keperawatan*, vol. 10, no. 1, pp. 1-6, 2019. <https://doi.org/10.22219/jk.v10i1.6061>
- [26] M. Meskini, M. Korani, & D. Esmaeili, "Herbal therapy for burn wound infections," *Medical Laboratory Journal*, vol. 13, no. 4, pp. 5-7, 2019. <https://doi.org/10.29252/mlj.13.4.5>.