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Use of Complementary and Alternative Therapies In Children With Allergic Rhinitis

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ABSTRACT

This study aimed to identify complementary and alternative treatment (CAM) methods used by mothers of children with allergic rhinitis (AR) and examine factors influencing these practices.

The sample included 155 mothers whose children were diagnosed with AR and visited the Pediatrics Clinic between January and June 2022. Data were collected through interviews using the Descriptive Information Form and Complementary and Alternative Treatment Use Form, each taking 10-15 minutes. Scientific and ethical principles were followed.

The mean age of the children was 5.19±4.84 years. Of the mothers, 53.6% perceived their family's income as equal to expenses, 58.1% were employed, 91.6% lived in nuclear families, and 60.6% were university graduates. CAM methods were used by 49% (n=76) of the mothers, with 65.8% beginning treatments before seeking medical attention, primarily to boost immunity (84.2%). Healthcare providers (48.7%) and close acquaintances (39.5%) recommended CAM. CAM was used alongside conventional treatments by 57.9%, and 64.5% reported benefits. Most mothers (97.4%) experienced no side effects, 93.4% considered using CAM again, and 89.5% would recommend it. Honey, carob, and linden were the most commonly used CAM methods. No significant differences were found between children using CAM and those who did not in terms of age, gender, family income, education, occupation, family structure, or residence ($p>0.05$).

CAM methods were widely used in children with AR. Pediatric nurses should recognize CAM practices, understand potential benefits and risks, and provide guidance. Further research is needed to evaluate CAM's impact on AR treatment.

Key words: Allergic Rhinitis, Complementary and Alternative Treatment, Child Health, Pediatric Nursing

Introduction

Complementary and alternative medicine (CAM) encompasses treatment approaches not widely accepted by modern medicine or used alongside conventional medical treatments (1). CAM methods are employed for various reasons and are more frequently utilized by individuals with chronic illnesses, as supported by research (2, 3). Allergic diseases rank among the most common chronic conditions globally (4).

Allergic rhinitis (AR) is an atopic condition characterized by symptoms such as nasal congestion, itching, clear rhinorrhea, sneezing, and postnasal discharge. AR is particularly common in pediatric populations due to its high prevalence (5, 6). In Turkey, the prevalence of AR ranges between 4.5% and 39.9% (7). AR significantly impacts the quality of life, not only for the patient but also for their family members, leading to considerable morbidity (8).

Given the potential side effects of prolonged medication use, many patients seek CAM methods as part of AR treatment (9). CAM practices vary according to geographical regions and cultural norms (10). These methods are widely preferred due to their perceived ease of use, natural and harmless nature, non-invasive approaches, affordability, accessibility, limited access to adequate healthcare services, socio-cultural factors, personal biases, religious beliefs, and fear of drug side effects (11, 12).

Nevertheless, it is crucial to note that many CAM methods rooted in cultural practices are not considered safe (13). In addition, there is insufficient clinical research on the use of CAM in pediatric patients (14, 15). Therefore, identifying commonly used CAM practices in pediatric health

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is essential for safeguarding public health (15). A study on children with asthma and AR revealed a 25.7% rate of CAM use among children with AR (1).

Given that side effects from CAM practices may occur more frequently and pose greater risks in children than in adults, pediatric nurses must thoroughly understand CAM methods, evaluate their implications for child health, and view this as a professional obligation (13).

This study aimed to identify complementary and alternative treatment methods applied by mothers for children diagnosed with AR and to examine the factors influencing their use.

Material and Methods

Study Design: This study was descriptive and cross-sectional in design.

Sample and Population: The study population consisted of mothers of children diagnosed with allergic rhinitis (AR) between January and June 2022. The sample included 155 mothers who met the inclusion criteria: having a child aged 0–18 years diagnosed with AR, agreeing to participate, being literate and communicative, and completing the questionnaire in full.

Data Collection Tools: The 'Introductory Information Form' and 'Complementary and Alternative Medicine Utilization Form' were developed based on a review of the current literature, particularly referencing studies on CAM use in pediatric allergic diseases (3,7,13,14).

Introductory Information Form: This form consisted of nine questions to gather information on the children's age, gender, and the socio-demographic characteristics of the parents.

Complementary and Alternative Medicine Utilization Form: This form included ten questions designed to assess the mothers' CAM practices, including use status, substances used, timing, reasons for use, and other relevant details (3,7,13,14).

Application of Data Collection: Prior to data collection, the necessary permissions were obtained from relevant institutions. The study was conducted at a private pediatric medical clinic located in Van province. Data were gathered through face-to-face interviews conducted by the researchers between January and June 2022. Mothers whose children were diagnosed with AR were informed about the study's purpose in a meeting room, and those who agreed to participate provided written informed consent. The "Introductory Information Form" and "Complementary and Alternative Medicine Utilization Form" were distributed to the participants. The mothers were instructed to complete the forms thoroughly, and they were given an average of 10–15 minutes to do so.

Statistical Analysis: Statistical analysis was conducted using IBM SPSS Statistics software (Version 25.0, Armonk, NY: IBM Corp.). The normality of the data distribution was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests along with graphical analysis. Continuous variables were presented as mean ± standard deviation (SD), and categorical variables as frequencies and percentages. Differences between groups were analyzed using the chi-square test for categorical variables and the independent samples t-test for continuous variables. A p-value of less than 0.05 was considered statistically significant, and all p-values were reported with three decimal places.

Ethical Approval: In our study, approval was obtained from the Van Yuzuncu Yıl University Non-Interventional Clinical Research Ethics Committee (Date:19/11/2021, Approval number: 2021/12-08) and the relevant institutions. Written and verbal informed consent was collected from all participating mothers in compliance with the principles of the Declaration of Helsinki.

Results

The mean age of children diagnosed with allergic rhinitis included in the study was 5.19 ± 4.84 years. The gender distribution was nearly equal, with 49.7% girls and 50.3% boys. In terms of socioeconomic characteristics, 53.6% of families reported a socioeconomic level where income was equal to expenses, 91.6% of the children lived in nuclear families, and 97.4% resided in urban areas.

Regarding maternal characteristics, 60.6% of mothers were university graduates, and 48.4% were civil servants. Similarly, 74.2% of fathers were university graduates, and 67.7% were employed as civil servants (Table 1).

Table 2 presents the characteristics and methods used in CAM applications in children with allergic rhinitis. Among the 155 mothers included in the study, 76 (49.0%) reported having their children use CAM. It was found that more than half of the mothers (65.8%) used CAM before consulting a doctor, primarily because they believed it strengthened immunity (84.2%). The recommendations for CAM use were mostly

Table 1: Descriptive Characteristics of Children and Parents

Descriptive Characteristics	Number (n=155)	%
Age*	5.19±4.84*	
Gender		
Female	77	49.7
Male	78	50.3
Income		
Income less than expenditure	12	7.7
Income matches expenditure	83	53.6
Income more than expenditure	60	38.7
Family type		
Nuclear family	142	91.6
Extended family	13	8.4
Residence		
Urban	151	97.4
County	4	2.6
Mother's education level		
Elementary school	5	3.2
Middle school	6	3.9
High school	50	32.3
Bachelor	94	60.6
Mother's occupation		
Housewife	65	41.9
Civil servant	75	48.4
Worker	5	3.2
Shopkeeper	10	6.5
Father's education level		
Illiterate	1	0.6
Elementary school	1	0.6
Middle school	3	2
High school	35	22.6
Bachelor	115	74.2
Father's occupation		
Self-employment	3	1.9
Civil servant	105	67.7
Worker	4	2.6
Shopkeeper	41	26.5
Unemployed	2	1.3

*****Mean ± standard deviation

received from health personnel (48.7%) and the close social environment (39.5%), and it was noted that 57.9% of mothers applied CAM in combination with medical treatment.

The results showed that 64.5% of the mothers who used CAM reported complete benefits, while 97.4% stated that they did not encounter any side effects. Furthermore, 93.4% of the mothers expressed their willingness to use CAM again, and 89.5% indicated that they would or could recommend CAM methods to others.

The study also revealed that the most commonly used CAM methods in children with allergic rhinitis were honey (72.4%), carob (64.5%), and linden (56.6%). Other CAM methods included ginger (42.1%), black cumin (35.5%), quince and apple leaves or seeds (21.1%), eucalyptus oil or menthol-containing vapors (19.7%), chamomile

Table 2: Characteristics of CAM Applications and Methods Used in Children with Allergic Rhinitis

Descriptive Characteristics	Number	%
CAM used		
Yes	76	49.0
No	79	51.0
Time of application		
Before visiting the doctor	50	65.8
After visiting the doctor	26	34.2
Reasons for using CAM*		
Strengthens immunity	64	84.2
Easily accessible	11	14.5
Encouraged by family members or acquaintances	7	9.2
Because medical treatment is partially successful	7	9.2
Although medical treatment was completely successful	6	7.9
The advice or source of information about CAM		
Health staff	37	48.7
Close environment (family, relatives, etc.)	30	39.5
Media	7	9.2
From other patient relatives	2	2.6
Method of application		
In combination with treatment	44	57.9
Before treatment	31	40.8
Withholding treatment	1	1.3
Did you benefit from it?		
Exactly	49	64.5
Partly	24	31.6
None	3	3.9
Side effect		
Yes	2	2.6
No	74	97.4
Do you plan to use it again?		
Yes	71	93.4
No	5	6.6
Would you recommend it to someone else?		
Yes	68	89.5
No	8	10.5
CAM methods used*		
Honey	55	72.4
Carob	49	64.5
Linden	43	56.6
Ginger	32	42.1
Black cumin	27	35.5
Leaves and seeds of quince and apple	16	21.1
Vapors containing eucalyptus oil/menthol	15	19.7
Chamomile	15	19.7
Black pepper	13	17.1

Radish	13	17.1
Clove	12	15.8
Water vapor	11	14.5
Horseradish	10	13.2
Marshmallow flower	8	10.5
Flaxseed	4	5.3
Lemon tree leaf	4	5.3
Tea tree oil	3	3.9
Stinging nettle	2	2.6

*****More than one option is selected

(19.7%), black pepper (17.1%), radish (17.1%), clove (15.8%), water vapor (14.5%), horseradish (13.2%), marshmallow flower (10.5%), flaxseed (5.3%), lemon tree leaf (5.3%), tea tree oil (3.9%), and nettle (2.6%) (Table 2).

No significant differences were observed between the groups regarding age, gender, family income, mother's educational level and occupation, father's educational level and occupation, family type, and place of residence (Table 3).

Discussion

Allergic rhinitis (AR) is a global health issue affecting 400 million individuals worldwide, often manifesting in early childhood (16). Complementary and alternative medicine (CAM) applications are widely used due to their perceived ease of use, natural and harmless nature, non-invasive approach, affordability, and accessibility (11, 12). CAM is frequently preferred over modern medicine in cases where health services are inadequate, there is a lack of belief in scientific facts, or due to socio-cultural characteristics, prejudices, religious beliefs, and fears about the side effects of medications (11, 17).

In our study, which aimed to determine CAM use in children diagnosed with allergic rhinitis, it was found that 49.0% of mothers reported using CAM for their children. Previous studies have shown the frequency of CAM use in children with AR to vary between 14% and 63.11% (3, 18). While Efe et al. (19) (46%) and Işık et al. (20) (48.8%) reported CAM use rates similar to our findings, lower rates were observed by Tuncel et al. (1) (25.7%) and Sancaklı et al. (3) (14%). These variations may reflect regional and cultural differences influencing CAM practices.

In our study, more than half (65.8%) of mothers used CAM before consulting a doctor. Similarly, Tuncel et al. (1) reported that 67.6% of mothers tried CAM before consulting an allergist for children diagnosed with asthma and/or AR. Hazır and Bozkurt (14) found that 92.1% of parents used CAM before initiating drug treatment in children with upper respiratory tract infections, while Sancaklı et al. (3) reported that 28.6% of mothers used CAM before seeing a doctor in cases of AR.

The reasons for CAM use reported in the literature include supporting medical treatment (19), being perceived as natural (9, 19), dissatisfaction with medical treatment (1, 14), ease of access, and reducing treatment side effects (14). In contrast, our study found that the majority of mothers (84.2%) used CAM primarily because they believed it strengthens immunity. This may reflect a perception among mothers that a weakened immune system is the underlying cause of allergic rhinitis.

In the literature, it is commonly reported that advice or information about CAM use is primarily obtained from the immediate environment, such as family members, relatives, friends, or neighbors (1, 3, 21, 22). However, in our study, it was determined that mothers most often received advice or information about CAM use from health personnel, indicating a potentially positive shift in the sources of guidance for CAM practices.

In previous studies, it was reported that 92.1% of parents of children with upper respiratory tract infections (URTI) in Hazır and Bozkurt (14) and 56.7% of parents of children with respiratory tract infections in Topaloğlu et al. (23) used CAM before initiating drug treatment. In contrast to these findings, this study determined that the majority of mothers (57.9%) used CAM alongside medical treatment. As also highlighted in the literature, mothers in this study may have chosen to combine CAM with medical treatment to support its efficacy, to manage side effects associated with medical interventions (3, 19, 24), and to provide additional health benefits beyond those offered by conventional methods (25).

Table 3: Comparison of Introductory Information of CAM Users and Non-users

	CAM Non-users (n=79)	CAM Users (n=76)	Test and p
Age	5.14±4.43	5.24±5.26	p=0.710a
Gender			
Female	42 (%53.2)	35 (%46.1)	χ^2=0.784
Male	37 (%46.8)	41 (%53.9)	p=0.376b
Income			
Income less than expenditure	7 (%8.9)	5 (%6.6)	χ^2=1.466
Income matches expenditure	45 (%57.0)	38 (%50.0)	p=0.480b
Income more than expenditure	27 (%34.1)	33 (%43.4)	
Mother's education level			
Elementary school	4 (%5.1)	1 (%1.3)	χ^2=3.300
Middle school	2 (%2.5)	4 (%5.3)	p=0.348b
High school	28 (%35.4)	22 (%28.9)	
Bachelor	45 (%57.0)	49 (%64.5)	
Mother's occupation			
Housewife	35 (%44.3)	30 (%39.6)	
Civil servant	38 (%48.1)	37 (%48.7)	χ^2=2.699
Worker	2 (%2.5)	3 (%3.8)	p=0.609b
Shopkeeper	4 (%5.1)	6 (%7.9)	
Father's education level			
Illiterate	-	1 (%1.3)	
Elementary school	1 (%1.3)	-	χ^2=2.383
Middle school	1 (%1.3)	2 (%2.6)	p=0.666b
High school	18 (%22.7)	17 (%22.4)	
Bachelor	59 (%74.7)	56 (%73.7)	
Father's occupation			
Self-employment	3 (%3.8)	-	
Civil servant	54 (%68.4)	51 (%67.1)	χ^2=4.639
Worker	3 (%3.8)	1 (%1.3)	p=0.326b
Shopkeeper	18 (%22.7)	23 (%30.3)	
Unemployed	1 (%1.3)	1 (%1.3)	
Family type			
Nuclear family	72 (%91.1)	70 (%92.1)	χ^2=.047
Extended family	7 (%8.9)	6 (%7.9)	p=0.828b
Residence			
Urban	77 (%97.5)	74 (%97.4)	χ^2=0.002
County	2 (%2.5)	2 (%2.6)	p=0.969b

a independent samples t-test
b chi-square test

The study found that a significant proportion of mothers (96.1%) reported benefiting either fully or partially from the CAM methods they used. Similar findings have been documented in previous research (3, 14, 22, 26). Furthermore, the majority of the mothers (97.6%) stated that they did not experience any side effects from using CAM and that they would consider using it again (93.4%). Consistent with these results, earlier studies have also reported minimal or no side

effects associated with CAM usage (10, 11) and a high likelihood of CAM reuse (14, 21). Additionally, it has been observed that CAM methods commonly known within communities are often passed down through generations via oral recommendations (14). In line with this, most mothers in the study indicated they would recommend the CAM methods they used to others, a finding supported by similar studies (14, 3, 21).

The study also identified honey (72.4%), carob (64.5%), and linden (56.6%) as the three most frequently used CAM products among children diagnosed with allergic rhinitis. Tuncel et al. (1) similarly found honey to be the most commonly used CAM method in children with AR. However, other studies have reported differing preferences: Sancaklı et al. (3) noted black cumin/oil, horseradish combined with honey, and tea application in conjunctivitis, while Işık et al. (20) identified molasses, various herbs and spices, and honey as common CAM methods in children with AR. These variations in CAM product usage likely reflect cultural and geographical differences across regions.

As a result of the study, it was determined that approximately half of the mothers used CAM methods for children diagnosed with AR, with the majority opting for these methods to strengthen their child's immunity. In clinical practice, it is crucial to include targeted questions during patient assessments to identify the parents' CAM use. Since evidence-based scientific studies on the impact of CAM applications in the treatment process of AR remain limited, pediatric nurses should be equipped with knowledge about both the potential benefits and risks or adverse effects of CAM methods. They should also provide appropriate counseling to parents on these topics. Additionally, it is recommended to conduct further research to establish evidence on the effectiveness and safety of CAM methods for AR management.

Ethical consent: The study was initiated with the ethical approval from the Van Yuzuncu Yıl University Faculty of Medicine Non-Interventional Clinical Research Ethics Committee (Date: 19/11/2021, Approval number: 2021/12-08).

Conflict of interest: The authors declare no conflict of interest.

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Author contributions: VC, MB, RA, and AC contributed to the conceptualization, study design, data collection, data analysis, interpretation of results, and manuscript preparation. All authors have reviewed and approved the final version of the manuscript.

Availability of data and materials: The data supporting the findings of this study are included within the article.

References

1. Tuncel T, Çetemen A, Karabel M, Kelekçi S, Şen V, Gürkan MF. Complementary and alternative medicine practices in children with asthma and/or allergic rhinitis. Asthma Allergy Immunology 2014;12(3):146-51.
2. Kemper KJ. Complementary and alternative medicine for children: Does it work? Arch Dis Child 2001;84(1):6-9.
3. Sancaklı Ö, Tuncel T, Özdoğru E. Investigation of the use of complementary and alternative medicine in children with allergic rhinitis. Asthma Allergy Immunology 2018;16(1):11-6.
4. Bacharier LB, Boner A, Carlsen KH, Eigenmann PA, Frischer T, Götz M, et al. Diagnosis and treatment of asthma in childhood: A PRACTALL consensus report. Allergy 2008;63(1):5-34.
5. Kakli HA, Riley TD. Allergic rhinitis. Prim Care 2016;43(3):465-75.
6. Varshney J, Varshney H. Allergic rhinitis: An overview. Indian J Otolaryngol Head Neck Surg 2015;67:143-9.
7. Sipahi S, Güler N. Clinical findings, diagnosis, and differential diagnosis in allergic rhinitis in children. J Clin Med Pediatr 2017;9(2):136-44.
8. Bousquet J, Khaltaev N, Cruz AA, Denburg J, Fokkens WJ, Togias A, et al. Allergic rhinitis and its impact on asthma (ARIA) 2008 update. Allergy 2008;63(Suppl. 86):8-160.
9. Bielory L. Complementary and alternative interventions in asthma, allergy, and immunology. Ann Allergy Asthma Immunol 2004;93(2):45-54.
10. Çekiç Ş, Canıtez Y, Çiçek F, Karalı Y, Karalı Z, Sapan N. Investigation of complementary and alternative medicine use in childhood allergic diseases. Osmangazi Medical Journal 2021;43(1):76-81.
11. Büyük ET, Güdek E, Kalaycı N. Mothers' approaches to children with cough. Gümüşhane Univ J Health Sci 2014;3(4):1019-31.
12. Ceyhan D, Yiğit TT. The role of current complementary and alternative medical treatments in health practices. Duzce Univ J Inst Health Sci 2016;6(3):178-89.

13. Cırık V, Efe E. The importance of complementary health approaches in pediatric nursing. J Educ Res Nurs 2017;14(2):144-9.
14. Hazır Y, Bozkurt G. Investigation of complementary and alternative treatment practices in children with upper respiratory tract infection. Dokuz Eylül Univ Faculty of Nursing Electron J 2020;13(3):117-23.
15. Uzun MB, Aykaç G, Özçelikay G. Misuse and harm of herbal products. Mersin Univ Faculty of Medicine Lokman Hekim J Med Hist Folk Med 2014;4(3):1-5.
16. Greiner AN, Hellings PW, Rotiroti G, Scadding GK. Allergic rhinitis. Lancet 2011;378(9809):2112-22.
17. Özçelik G, Toprak D. Reasons for preferring herbal treatment. Ankara Med J 2015;15(2):48-58.
18. Yen HR, Liang KL, Huang TP, Fan JY, Chang TT, Sun MF. Characteristics of traditional Chinese medicine use for children with allergic rhinitis: A nationwide population-based study. Int J Pediatr Otorhinolaryngol 2015;79(4):591-7.
19. Efe YS, Özbey H, Caner N, Bayat M, Tahan F, Cansever M. Use of complementary and alternative medicine in children with allergic diseases. İnönü Univ J Voc Health Services 2020;8(3):1054-65.
20. Işık S, Gül İ, Çetin M. Complementary and alternative medicine practices in children with asthma and/or allergic rhinitis in Van province. J Pediatr Dis 2018;12(2).
21. Kaplan B, Bayat M, Çalışkan Z, Evginc D, Caner N. Alternative treatment methods used by families in children with acute respiratory infection symptoms: A cross-sectional study. Turkiye Klinikleri J Nurs Sci 2023;15(1).
22. Yıldız Y, Yavuz AY. Use of complementary and alternative medicine in children followed up with an asthma diagnosis and family attitudes. Ankara Med J 2021;21(2).
23. Topaloğlu N, Yıldırım Ş, Tekin M, Uludağ A, Özgen K. Alternative treatment practices in children with respiratory tract infections in Western Turkey. Current Pediatrics 2013;11(1):23-6.
24. Doğan BÖ. Use of traditional and complementary treatment in childhood asthma and severity of asthma. Medical Specialty Thesis. Eskisehir Osmangazi Univ Faculty of Medicine Department of Family Medicine 2016.
25. Akçay D, Yıldırımlar A. Evaluation of Complementary and Alternative Medicine Use and Parental Knowledge in Children. Journal of Child 2017;17(4):174-81.
26. Tuncel T, Şen V, Kelekçi S, Karabel M, Şahin C, Uluca Ü, et al. Use of Complementary and Alternative Medicine in Children Without Chronic Diseases. Turkish Archives of Pediatrics 2014;49(2):148-53.