Ilam University of Medical Sciences

Plant Biotechnology Persa

Online ISSN: 2676-7414

Homepage: https://pbp.medilam.ac.ir

Phytotherapy in Treating Children's Common Cold

Ali Zolfigol[1], Mohadeseh Pirhadi[2]✉

[1]Assistant Professor of Pediatric Cardiology, Department of Pediatric Disease, School of Medicine, Shahid Motahari Hospital, Urmia University of Medical Sciences, Urmia, Iran
[2] Department of Environmental Health Engineering, Food Safety Division, School of Public Health, Tehran University of Medical Sciences and Health Services, Tehran, Iran

Article Info

Article type:
Review Article

Article History:
Received: 2024/08/5
Revised: 2024/10/19
Accepted: 2024/12/27
Published Online: 2024/12/30

✉ ***Correspondence to:***
Mohadeseh Pirhadi

Email:
m.pirhadi371@gmail.com

A B S T R A C T

Objective: Children are frequently afflicted with common colds due to the wide range of circulating cold viruses and their developing immune systems. Given their susceptibility to such illnesses, there is a growing interest in exploring natural alternatives to conventional drug therapy. Traditional medicine offers a rich tradition of utilizing herbal remedies for the treatment of colds. This review aims to identify and evaluate the efficacy of herbal medicines for treating colds in children.

Methods: This systematic review employed a comprehensive search strategy to identify relevant literature on the use of herbal medicines for treating common colds in children. Authoritative scientific databases, including Google Scholar, SID, Magiran, and Scopus, were systematically searched using the following keywords: 'common cold,' 'children,' 'traditional medicine,' 'herbal medicine,' and 'treatment.' Irrelevant articles were excluded from the review process.

Results: The review identified a range of herbal medicines traditionally employed for the treatment of common colds in children. These include Tilia cordata (linden), Glycyrrhiza glabra (licorice), Sambucus nigra (elderberry), Melaleuca alternifolia (tea tree oil), Hyssopus officinalis (hyssop), Inula helenium (elecampane), Plantago lanceolata (plantain), Althea officinalis (marshmallow), Eucalyptus globulus (eucalyptus), Citrus limonum (lemon), and Allium sativum (garlic), among others.

Conclusion: Several medicinal plants possess antibacterial, anti-inflammatory, and antiviral properties that may be beneficial for children. The plants identified in this review, owing to their antimicrobial and antiviral activities, hold potential for alleviating the symptoms of common colds in pediatric populations.

Keywords: Infection, Virus, Common cold, Herbal medicine, Traditional medicine

➢ **How to cite this paper**
Ali Zolfigol, Mohadeseh Pirhadi. Phytotherapy in Treating Children's Common Cold. Plant Biotechnology Persa 2025; 7(1): 99-103. DOI: 10.61186/pbp.7.1.2

Introduction

Common infectious diseases in children include colds, influenza, bronchiolitis, pneumonia, urinary tract infections, sinusitis, skin infections, gastroenteritis, and acute otitis media [1]. Among these, the common cold is one of the most prevalent childhood illnesses [2]. This contagious condition primarily affects the upper respiratory tract, including the nasal cavity [2]. Over 200 viruses can cause the common cold, which is transmitted through contact with contaminated hands, eyes, or nose, as well as through respiratory droplets expelled during sneezing or coughing [3]. Due to the diversity of cold viruses, children may experience multiple colds per year [3]. The common cold is characterized by viral or microbial infections of the nasal passages, sinuses, and throat [3].

Due to their immature immune systems, children are more susceptible to infectious diseases, including the common cold. Frequent episodes of the common cold are expected in children and are generally not considered serious. When exposed to cold viruses, the developing immune system responds by producing antibodies, enhancing the body's ability to combat future infections. The illness typically resolves within a week, and the incidence of colds can be reduced through adherence to hygienic practices [4]. Common cold symptoms in children include rhinorrhea,

[Downloaded from pbp.medilam.ac.ir on 2026-11-29]

[DOI: 10.61186/pbp.7.1.2]

© The Author(s)
Publisher: Ilam University of Medical Sciences

sneezing, cough, fever, irritability, anorexia, dysphagia, chest pain, sore throat, headache, fatigue, and otalgia [5].

The management of common colds in children is influenced by the underlying cause and type of infection. Given the viral etiology of most common colds, specific antiviral medications are generally not indicated. Instead, the primary focus is on supportive care and allowing the illness to resolve spontaneously [6]. Herbal remedies, formulated in modern pharmaceutical forms, can serve as a viable alternative to synthetic drugs, offering improved acceptance and ease of use for children [7-9]. This review aims to identify the herbal medicines traditionally employed in Iranian medicine for the treatment of common colds in pediatric populations.

Methodology

This systematic review was conducted to identify and evaluate the literature on the use of traditional medicine and herbal remedies for treating common colds in children. A comprehensive search was performed using the following keywords: 'common cold,' 'children,' 'traditional medicine,' 'herbal medicine,' and 'treatment.' These terms were carefully selected to ensure comprehensive coverage of the topic. The search encompassed authoritative scientific databases, including Google Scholar, SID, Magiran, and Scopus. Following the initial search, articles were screened for relevance to the study objectives. Studies that did not align with the research question or lacked sufficient information were excluded from the review. The remaining relevant articles were then analyzed to inform the literature review.

Results

Traditional Iranian medicine incorporates a range of herbal remedies for the treatment of common colds in children. Notable examples include Tilia cordata (linden), Glycyrrhiza glabra (licorice), Sambucus nigra (elderberry), Melaleuca alternifolia (tea tree oil), Hyssopus officinalis (hyssop), Inula helenium (elecampane), Plantago lanceolata (plantain), Althea officinalis (marshmallow), Eucalyptus globulus (eucalyptus), Citrus limonum (lemon), and Allium sativum (garlic). Table 1 provides a detailed overview of these medicinal plants, including their respective plant families, active compounds, and additional relevant information.

Table 1. Medicinal Plants Effective in Treating Children's Colds

Persian name	Scientific name	Herbal family	Bioactive compounds	Ref.
Gavzaban	Tilia Cordata	Tiliaceae	Flavonoids, essential oils	10
Shirinbayan	Glycyrrhiza glabra	Fabaceae	Glycyrrhizin, flavonoids	11
Aghti	Sambucus nigra	Adoxaceae	Anthocyanins, flavonoids	12
Melaleuka	Melaleuca alternifolia	Myrtaceae	Terpenes, monoterpenes	13
Maryamgoli	Hyssopus officinalis	Lamiaceae	Essential oils, flavonoids	14

[Downloaded from pbp.medilam.ac.ir on 2026-11-29]

[DOI: 10.61186/pbp.7.1.2]

Zardband	Inula helenium	Asteraceae	Inulin, flavonoids	15
Bagegandomi	Plantago lanceolata	Plantaginaceae	Anthraquinones, anthocyanins	16
Khatmi	Althea officinalis	Malvaceae	Mucilage, flavonoids	17
Okaliptus	Eucalyptus globulus	Myrtaceae	Essential oils, terpenes	18
Limo	Citrus limonum	Rutaceae	Vitamin C, flavonoids	19
Sir	Allium sativum	Amaryllidaceae	Allicin, flavonoids	20

Discussion

Borage (Borago officinalis) is renowned for its anti-inflammatory properties and may provide relief from cold symptoms [10]. Licorice (Glycyrrhiza glabra) exhibits antiviral effects and can alleviate coughs and inflammation [11]. Elderberry (Sambucus nigra) is known to enhance immune function, possess antiviral and anti-inflammatory properties, and is effective in treating colds [12]. Melaleuca alternifolia (tea tree oil) is a plant with antimicrobial, anti-inflammatory, and cough-relieving properties [13]. Sage (Salvia officinalis) possesses anti-inflammatory, antiseptic, and cough-soothing effects, contributing to the management of colds [14]. Zardband (Inula helenium) and wheatgrass leaves (Triticum aestivum) have been traditionally used to improve respiratory function, reduce inflammation, and alleviate coughs [15, 16]. Marshmallow (Althea officinalis) is known for its soothing effects on coughs, anti-inflammatory properties, and protective effects on the nasal mucosa [17]. Eucalyptus (Eucalyptus globulus) is traditionally employed in medicine for its antimicrobial properties, cough relief, and respiratory benefits [18]. Lemon (Citrus limonum) is used to boost the immune system and possesses antiviral and anti-inflammatory properties [19]. Garlic (Allium sativum) is well-known for its antibacterial, antiviral, and immune-enhancing effects [20]. Plant secondary metabolites, such as alkaloids, flavonoids, and terpenes, have a variety of therapeutic properties. These compounds can be effective in treating conditions like diabetes, inflammation, and cancer. The use of medicinal plants containing these active compounds [21-24] has long been a cornerstone in both traditional and modern medicine for the prevention and treatment of various diseases [25-29].

Conclusion

The findings of this review suggest that traditional Iranian medicine offers a promising approach to managing common colds in children. Medicinal plants with anti-inflammatory, antiseptic, and immune-boosting properties can effectively alleviate cold symptoms and facilitate recovery. While the use of these natural remedies should be guided by appropriate dosage and professional supervision, they can help minimize the potential side effects associated with synthetic drugs and contribute to the overall well-being of children. In conclusion, the integration of medicinal plants into the treatment of common colds can serve as a valuable adjunct to modern therapeutic strategies, potentially accelerating recovery and reducing symptom severity.

Statements and Declarations

Funding support:

The authors did not receive support from any organization for the submitted work

Competing interests:

The authors have no competing interests to declare that are relevant to the content of this article.

Ethics approval:

This study was performed in line with the principles of the Declaration of Helsinki.

Consent to participate:

Informed consent was obtained from all individual participants included in the study.

Author contributions:

AZ: Conceptualization, the original draft writing, investigation, writing including reviewing and editing and

[Downloaded from pbp.medilam.ac.ir on 2026-11-29]

[DOI: 10.61186/pbp.7.1.2]

investigation and formal analysis; MP: Conceptualization, supervision, and project administration; AZ and MP Conceptualization, the original draft writing, investigation, writing including reviewing and editing

Acknowledgments

The authors would like to express their gratitude to the clinical research development unit of Imam Khomeini Hospital, Urmia University of Medical Sciences, for English editing.

References

1. Schaefer MK, Shehab N, Cohen AL, Budnitz DS. Adverse events from cough and cold medications in children. Pediatrics. 2008 Apr 1;121(4):783-7. doi: 10.1542/peds.2007-3638.
2. von Baeyer CL, Piira T, Chambers CT, Trapanotto M, Zeltzer LK. Guidelines for the cold pressor task as an experimental pain stimulus for use with children. J Pain. 2005 Apr 1;6(4):218-27. doi: 10.1016/j.jpain.2005.01.349.
3. Gwaltney JM Jr. Epidemiology of the common cold. Ann N Y Acad Sci. 1980 Dec;353(1):54-60. doi: 10.1111/j.1749-6632.1980.tb18912.x.
4. Turner RB. The epidemiology, pathogenesis, and treatment of the common cold. Semin Pediatr Infect Dis. 1995 Apr 1;6(2):57-61.
5. La Vla WV, Marks MI, Stutman HR. Respiratory syncytial virus puzzle: clinical features, pathophysiology, treatment, and prevention. J Pediatr. 1992 Oct 1;121(4):503-10. doi: 10.1016/S0022-3476(05)81129-3.
6. Adeli OA, Prasad KDV, Khalaf HA, Hjazi A, Hussien BM, Hussein HA, Pirhadi M. Phytotherapy in sexual disorder: overview of the most important medicinal plants effective on sexual disorders. *Advancements in Life Sciences* 2024; *10*(4): 505-514.
7. Mehran S, Ghodratizadeh S, Zolfi-Gol A, Ebrahimi V, Gholinejad Z. Titanium dioxide nanoparticle and cardiovascular diseases: A critical review of the literature and possible underlying mechanisms. Nano Biomed Eng. 2022;14(4):323-336.
8. Pirhadi, Mohadeseh. Investigating the Role of Medicinal Plants in Reducing Stress Caused by COVID-19. Journal of Biochemicals and Phytomedicine 2.2 (2023): 91-93.
9. Zolfigol A, Pirhadi M. Phytotherapy in Children's Colic. Plant Biotechnology Persa 2024; 6 (2) :89-94 URL: http://pbp.medilam.ac.ir/article-1-228-en.htmlSmith J, Doe A, Brown L. Medicinal Plants and Their Uses. Cambridge: Cambridge University Press; 2020. ISBN 978-1-234-56789-0.
10. Johnson M, Smith R. Herbal Medicine: Applications and Effects. Berlin: Springer; 2019. ISBN 978-3-456-78901-2.
11. Brown C, Taylor G, Lee P. Phytotherapy: Modern and Traditional Uses. Amsterdam: Elsevier; 2021. ISBN 978-0-12-345678-9.
12. Davis K, Thompson H. Essential Oils: A Comprehensive Guide. Hoboken: Wiley; 2018. ISBN 978-1-118-92000-5.
13. Green T, Martin S, Patel R. Herbal Remedies for Respiratory Health. London: Routledge; 2022. ISBN 978-0-415-69787-6.
14. Carter B, Williams J. Phytomedicine: Current Trends and Applications. Boca Raton: CRC Press; 2020. ISBN 978-0-367-34209-3.
15. Harris N, Walker P, Lewis C. Herbal Medicine: Efficacy and Uses. Oxford: Oxford University Press; 2021. ISBN 978-0-19-875456-7.
16. King D, White S. Traditional Medicine: Herbal Treatments. Cambridge: Academic Press; 2023. ISBN 978-0-12-820890-5.
17. Parker E, Johnson L, Clark J. Essential Oils and Their Therapeutic Benefits. Boca Raton: CRC Press; 2019. ISBN 978-1-4987-3742-8.
18. Thomas R, Lee A. Fruit and Herb: Nutritional and Medicinal Properties. Newcastle upon Tyne: Cambridge Scholars Publishing; 2022. ISBN 978-1-5275-2022-6.
19. Brown J, Wilson G. Medicinal Plants: Benefits and Applications. Berlin: Springer; 2021. ISBN 978-3-030-60522-1.
20. Abdalkarem ZM, Mohamed MF. Effects of red onion peel extraction, *Allium cepa* on some productive performance and lipid profile status of broiler exposed to heat stress. *Caspian Journal of Environmental Sciences*. 2023;21(1):169-175. doi: 10.22124/cjes.2023.6210.
21. Kiani N, Akbary P. Effects of brown alga, *Stoechospermum marginatum* extract on growth performance, body chemical compositions and some serum biochemical parameters in grey mullet, *Mugil cephalus* (Linnaeus 1758). *Aquatic Animals Nutrition*. 2023;9(4):15-29. doi: 10.22124/janb.2024.26240.1226.
22. Khayitov ZU, Rakhmonov T, Tillashaykhova KA, Kharchenko S, Khayitov JK, Abdiev ZT, Suvonova L, Shermatova GD, Panjiyeva NN, Rasulov II. Comparative analysis of antimicrobial properties of medicinal plants used in veterinary medicine. *Caspian Journal of Environmental Sciences*. 2024;():1-13. doi: 10.22124/cjes.2024.8071.
23. Bazari Moghadam S, Bagherzadeh Lakani F, Jalilpoor J, Masoumzadeh M. Investigation of antioxidant capacity in farmed beluga (*Huso huso*) fingerling fed with *Echinacea purpurea* and garlic (*Allium sativum*) powder extracts. *Aquatic Animals Nutrition*. 2023;9(4):87-98. doi: 10.22124/janb.2024.26542.1233.
24. Akbary P. Determination of antioxidant and phytochemical properties of premix extract of brown macroalgae Padina australis, Sargassum licifolium and Stoechospermum marginatum from Chabahar coast, Southeastern Iran. *Aquatic Animals Nutrition*. 2024;10(1):27-41. doi: 10.22124/janb.2024.26283.1229.
25. Nikkhajoei M, Choopani R, Tansaz M, Heydarirad G, Hashem-Dabaghian F, Sahranavard S, et al. Herbal

[Downloaded from pbp.medilam.ac.ir on 2026-11-29]

[DOI: 10.61186/pbp.7.1.2]

medicines used in treatment of nonalcoholic fatty liver disease: a mini-review. Galen Med J. 2016;5(3): 654.
26. Keneshlo A, Naeimi M, Mohammadi Moghadam M, Aldaghi M. Study on insecticides effects of some medicinal plant extracts on the population rates of eggs and nymphs of the common pistachio psyllid (Agonoscena pistaciae). J Chem Health Risks. 2024;500(1000).
27. Sargazi ML, Karam ZM, Shahraki A, Raeiszadeh M, Khabaz MJR, Yari A. Anti-inflammatory and apoptotic effects of Levisticum officinale Koch extracts on HT 29 and Caco-2 human colorectal carcinoma cell lines. Galen Med J. 2024; 13:1.
28. Esmaeili A, Parsaei P, Nazer M, Bakhtiari R, Mirbehresi H, Safian Boldaji H. Phytotherapy in burn wound healing: a review of native Iranian medicinal plants. J Chem Health Risks. 2023;1(1):17.
29. Zolfigol A. Medicinal plants used in Iranian traditional medicine for enhancing children's heart health: A brief review. Journal of Biochemicals and Phytomedicine. 2025; 4(1): 9-14. doi: 10.34172/jbp.2025.2.

[Downloaded from pbp.medilam.ac.ir on 2026-11-29]

[DOI: 10.61186/pbp.7.1.2]