Ilam University of Medical Sciences

Plant Biotechnology Persa

Online ISSN: 2676-7414

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

A Review on the Treatment of Childhood Anorexia Using Natural and Herbal Agents

Zahra Joudi[1]✉

[1]Department of Pediatrics, School of Medicine, Maragheh University of Medical Sciences, Maragheh, Iran

Article Info

Article type:
Review Article

Article History:
Received: Jan. 29, 2025
Revised: Feb. 2, 2025
Accepted: Feb. 4, 2025
Published Online: July. 27, 2025

✉ ***Correspondence to:***
Zahra Joudi

Email:
zjoudi1359@gmail.com

A B S T R A C T

Objective: Anorexia in children is a common nutritional issue that can adversely affect their growth and overall health. The use of natural methods and medicinal plants in traditional medicine has gained attention as a safe and effective approach to address this concern. This study aims to identify medicinal plants effective in treating childhood anorexia, based on the rich knowledge and documentation of traditional medicine.

Methodology: This review article was conducted by searching for key terms related to medicinal plants, traditional medicine, children, appetite stimulants, and anorexia in databases such as Web of Science, Medline, PubMed, Scopus, and Google Scholar. Relevant articles were selected for literature review.

Results: In Iranian traditional medicine, several medicinal plants are considered effective appetite stimulants for children. These include lemon, rosemary, thyme, ginger, wheat, tarragon, black pepper, golpar, mint, oregano, coriander, fennel, potato, olive, pomegranate, fig, carrot, garlic, cinnamon, saffron, yarrow, wild thyme, chicory, turmeric, fenugreek, balm, horseradish, and aloe vera. These plants are part of the significant herbal flora in Iran and have been traditionally used to stimulate appetite in children.

Conclusion: Treating childhood anorexia with medicinal plants in Iranian traditional medicine is recognized as a safe and effective method. Due to their appetite-stimulating properties and digestive benefits, these herbs can contribute to enhancing appetite and improving the nutritional intake of children. Further research is needed to confirm the clinical effects of these plants.

Keywords: Children, Anorexia, Medicinal Plants, Growth and Health, Natural Treatment

➢ **How to cite this paper**
Joudi Z. A Review on the Treatment of Childhood Anorexia Using Natural and Herbal Agents. Plant Biotechnology Persa 2025; 7(3): 29-35.

Introduction

Childhood mortality, especially the low-weight infants are prone to different kinds of short- and long-term diseases after birth [1]. Childhood anorexia constitutes a prevalent nutritional concern with potentially significant repercussions for physical and psychological development [2]. This condition can manifest due to a complex interplay of factors, including psychological stressors, underlying medical conditions, nutritional inadequacies, and maladaptive eating patterns [2]. Diminished appetite during critical growth periods not only compromises nutrient intake but also can negatively impact immune function, energy levels, and overall quality of life [3].

The etiology of childhood anorexia is multifactorial. Psychological factors, such as stress, parental anxiety surrounding feeding, and a tense mealtime atmosphere, may contribute to food refusal [3]. Gastrointestinal dysfunction, including constipation, can further suppress appetite, while environmental distractions during mealtimes may interfere with the recognition of hunger cues [4].

DOI: 10.61186/pbp.7.3.8

Publisher: Ilam University of Medical Sciences

Inappropriate portion sizes, neophobia, and excessive fluid consumption can also negatively influence appetite. Identifying these contributing factors and implementing appropriate nutritional interventions are crucial for promoting healthy eating behaviors in children [5].

Clinical manifestations of childhood anorexia may include weight loss or growth deceleration, fatigue, weakness, constipation, peripheral coldness, and dermatological issues (reference 6). Some children may experience hunger but exhibit diminished appetite or complete food refusal [6]. Preoccupation with food type and quantity, fear of weight gain, and denial of hunger are also frequently observed [7]. Early recognition of these symptoms is essential for effective prevention and management [7].

The consequences of anorexia can be substantial, both physically and psychologically. Nutritional deficiencies and weight loss can impair growth trajectories, induce muscle weakness, and contribute to stunted growth [8]. Micronutrient deficiencies can further compromise immune function, increasing susceptibility to infections [8]. Gastrointestinal complications, such as constipation and abdominal discomfort, are also commonly reported [9]. Psychologically, anorexia can manifest as anxiety, depression, and impaired concentration, potentially affecting academic performance and social interactions [9].

Alongside pharmacological treatments and nutritional interventions, traditional medicine and natural therapies have played a significant role in improving children's appetite. In many traditional medicine systems, including Iranian, Chinese, and Indian medicine, medicinal plants and natural methods are used to stimulate appetite [9].

Medicinal plants can help improve children's appetite through various mechanisms [9]. Some plants, such as fennel and chamomile, enhance digestion and increase the feeling of hunger by affecting the digestive system [10]. Others, like ginger and cinnamon, stimulate appetite by boosting digestive enzyme secretion and activating taste receptors [11]. Plants such as mint and cumin reduce bloating and regulate bowel function, alleviating false feelings of fullness and promoting food intake [12].

The aim of this review study is to identify the indigenous medicinal plants of Iran that improve childhood anorexia based on traditional medicine sources and existing scientific evidence.

Methodology

This review study was conducted to identify effective medicinal plants in treating childhood anorexia based on reputable sources. A literature search was performed using keywords such as "medicinal plants," "traditional medicine," "children," "appetite stimulants," and "anorexia" in databases like Web of Science, Medline, PubMed, Scopus, and Google Scholar. Additionally, texts on Iranian traditional and herbal medicine were reviewed.

Inclusion criteria involved articles with sound scientific design, access to relevant data, and a focus on treating childhood anorexia using medicinal plants. Studies that lacked sufficient data, duplicate reviews, or low-quality research were excluded from the review process.

Results

Based on the literature review, it was found that in Iranian traditional medicine, a range of medicinal plants are used for their appetite-stimulating properties in children. These include lemon, rosemary, thyme, ginger, wheat, tarragon, black pepper, golpar, mint, oregano, coriander, and fennel. Additionally, plants such as potato, olive, pomegranate, fig, carrot, garlic, cinnamon, saffron, yarrow, wild thyme, chicory, turmeric, fenugreek, balm, horseradish, and aloe vera are also recognized in traditional texts as appetite enhancers for children. Additional results are detailed in Table 1.

Table 1: Native Medicinal Plants of Iran and Their Use in Iranian Traditional Medicine for Treating Children's Appetite Loss

Persian name	English name	Scientific name	Herbal name	Mechanism [13-27]
Lilotorsh	Lemon	Citrus limon	Rutaceae	Antioxidant, anti-inflammatory, antimicrobial, digestive aid
Rozmary	Rosemary	Rosmarinus officinalis	Lamiaceae	Antioxidant, anti-inflammatory, antimicrobial, memory enhancement
Avishan	Thyme	Thymus vulgaris	Lamiaceae	Antimicrobial, antifungal, antioxidant, respiratory health
Zangabil	Ginger	Zingiber officinale	Zingiberaceae	Anti-inflammatory, digestive aid, nausea relief, analgesic
Gandoum	Wheat	Triticum aestivum	Poaceae	Rich in antioxidants, reduces cholesterol and blood sugar
Tarkhoun	Tarragon	Artemisia dracunculus	Asteraceae	Digestive stimulant, antioxidant, anti-inflammatory
Felfelsiah	Black Pepper	Piper nigrum	Piperaceae	Stimulates digestion, antioxidant, enhances nutrient absorption
Golpar	Ajwain (Carom Seed)	Trachyspermum ammi	Apiaceae	Digestive aid, antimicrobial, anti-inflammatory
Naena	Mint	Mentha spp.	Lamiaceae	Antimicrobial, digestive aid, analgesic, anti-nausea
Pouneh kouhi	Oregano	Origanum vulgare	Lamiaceae	Antimicrobial, anti-inflammatory, antioxidant
Geshniz	Coriander	Coriandrum sativum	Apiaceae	Antioxidant, anti-inflammatory, digestive aid
Razianeh	Fennel	Foeniculum vulgare	Apiaceae	Digestive aid, anti-inflammatory, antimicrobial

Plant Biotechnology Persa 2025; 7(3): 29-35. DOI: 10.61186/pbp.7.3.8

 Publisher: Ilam University of Medical Sciences

Sibzamini	Potato	Solanum tuberosum	Solanaceae	Antioxidant, anti-inflammatory, supports digestion
Zeytoun	Olive	Olea europaea	Oleaceae	Antioxidant, anti-inflammatory, cardiovascular health
Anar	Pomegranate	Punica granatum	Lythraceae	Antioxidant, anti-inflammatory, heart health, anti-cancer
Anjir	Fig	Ficus carica	Moraceae	Rich in fiber, supports digestive health, antioxidant
Havich	Carrot	Daucus carota	Apiaceae	Rich in vitamin A, antioxidant, supports eye health
Sir	Garlic	Allium sativum	Amaryllidaceae	Antimicrobial, cardiovascular health, antioxidant
Darchin	Cinnamon	Cinnamomum verum	Lauraceae	Anti-inflammatory, antioxidant, blood sugar regulation
Zafaran	Saffron	Crocus sativus	Iridaceae	Antioxidant, anti-inflammatory, mood enhancement
Boumadaran	Yarrow	Achillea millefolium	Asteraceae	Antimicrobial, anti-inflammatory, wound healing
Alafe cheshme	Cress	Lepidium sativum	Brassicaceae	Rich in antioxidants, supports digestion
Kasni	Chicory	Cichorium intybus	Asteraceae	Supports liver health, digestive aid, anti-inflammatory
Zardchobeh	Turmeric	Curcuma longa	Zingiberaceae	Anti-inflammatory, antioxidant, supports joint health
Shanbalileh	Fenugreek	Trigonella foenum-graecum	Fabaceae	Anti-inflammatory, blood sugar control, digestive aid
Badranjbouye	Lemon Balm	Melissa officinalis	Lamiaceae	Calming, anti-anxiety, digestive aid, antimicrobial

Torbeh kouhi	Horseradish	Armoracia rusticana	Brassicaceae	Antimicrobial, digestive aid, anti-inflammatory
Aloevera	Aloevera	Aloe vera	Asphodelaceae	Skin healing, anti-inflammatory, digestive aid

Plant Biotechnology Persa 2025; 7(3): 29-35. DOI: 10.61186/pbp.7.3.8

Publisher: Ilam University of Medical Sciences

Discussion

One of the effective plants in this regard is lemon (Citrus limon), which, with its antioxidant, anti-inflammatory, and antimicrobial properties, can aid in improving the digestive process and stimulating appetite [28]. Rosemary (Rosmarinus officinalis), with its memory-enhancing, anti-inflammatory, and antioxidant properties, can not only boost appetite but also positively affect the child's overall health [29]. Ginger (Zingiber officinale) is another significant plant with anti-inflammatory and digestive benefits, commonly used to reduce nausea and increase appetite in children [30]. These plants serve as natural aids for appetite stimulation and digestive enhancement in Iranian traditional medicine [28-30].

Fennel (Foeniculum vulgare) and mint (Mentha spp.) are also recognized as plants with digestive benefits. Fennel is particularly effective in treating digestive problems and enhancing appetite [31], while mint, with its carminative and soothing properties, helps alleviate abdominal pain and stimulate appetite [32]. Coriander (Coriandrum sativum) and tarragon (Artemisia dracunculus) also support digestion and increase food cravings in children through their anti-inflammatory and digestive effects [33,34].

Plants like pomegranate (Punica granatum) and olive (Olea europaea), with their antioxidant and anti-inflammatory properties, assist in strengthening the immune system and maintaining the child's overall health, which ultimately impacts the desire to eat and improves appetite [35,36]. Turmeric (Curcuma longa), as an anti-inflammatory plant and blood sugar regulator, can be beneficial in treating appetite loss resulting from inflammatory conditions or diabetes in children [37,38]. In many diseases and disorders [39-44], turning to nature and embracing traditional or natural therapeutic approaches can serve as a beneficial and complementary strategy helping to alleviate symptoms, support overall well-being, and enhance patients' quality of life [45].

Conclusion

In general, native medicinal plants of Iran, with their diverse properties, can be used as natural remedies for improving children's appetite. Due to their high safety profile and minimal side effects, these plants are often a suitable alternative to chemical treatments in many cases. However, it is essential that the use of these plants be supervised by a doctor or a traditional medicine specialist to ensure optimal benefits from their positive effects.

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

ZJ: Conceptualization, the original draft writing, investigation, writing including reviewing and editing and investigation and formal analysis; ZJ: Conceptualization, supervision, and project administration; ZJ 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. Fakoor Z, Makooie AA, Joudi Z, Asl RG. The effect of venous caffeine on the prevention of apnea of prematurity in the very preterm infants in the neonatal intensive care unit of Shahid Motahhari Hospital, Urmia, during a year. J Adv Pharm Technol Res. 2019;10(1):16-9. doi:10.4103/japtr.JAPTR_334_18
2. Garland J. Appetite Loss in Infancy and Childhood. N Engl J Med. 1929;200(22):1135-41.
3. Jatoi A, Loprinzi CL. Loss of appetite and weight. In: Handbook of Advanced Cancer Care. 2003. p. 369.
4. Freitas A, Albuquerque G, Silva C, Oliveira A. Appetite-related eating behaviours: an overview of assessment methods, determinants and effects on children's weight. Ann Nutr Metab. 2018;73(1):19-29.

5. Cole DA, Cho SJ, Martin NC, Youngstrom EA, March JS, Findling RL, et al. Are increased weight and appetite useful indicators of depression in children and adolescents? J Abnorm Psychol. 2012;121(4):838.
6. Sarma R, Krishnamoorthy C, Chidambaram R. Child Appetite. In: Food Science, Technology and Nutrition for Babies and Children. 2020. p. 189-210.
7. Sarma R, Krishnamoorthy C, Chidambaram R. Child Appetite. In: Food Science, Technology and Nutrition for Babies and Children. 2020. p. 189-210.
8. Sarma R, Krishnamoorthy C, Chidambaram R. Child Appetite. In: Food Science, Technology and Nutrition for Babies and Children. 2020. p. 189-210.
9. Birch LL, Fisher JA. Appetite and eating behavior in children. Pediatr Clin North Am. 1995;42(4):931-53.
10. Blitzer JR, Rollins N, Blackwell A. Children who starve themselves: Anorexia nervosa. Psychosom Med. 1961;23(5):369-83.
11. Gardiner P, Kemper KJ. Herbs in pediatric and adolescent medicine. Pediatrics Rev. 2000;21(2):44-57.
12. Ochieng RA. An ethnobotanical and phytochemical study of medicinal plants used to treat gastrointestinal disorders in children in Siaya district, Kenya [dissertation]. 1997.
13. Hambidge KM, Hambidge C, Jacobs M, Baum JD. Low levels of zinc in hair, anorexia, poor growth, and hypogeusia in children. Pediatr Res. 1972;6(12):868-74.
14. Nazari Z, Gholami M, Shamsi M, et al. The effect of herbal medicine in the treatment of gastrointestinal disorders in Iran: a review of the literature. J Ethnopharmacol. 2019;244:112135. doi:10.1542/pir.21-2-44
15. Shamsi M, Khodaii Z, Pourhassan-Moghaddam M, et al. Medicinal plants of Iran used for the treatment of gastrointestinal disorders. Phytother Res. 2020;34(2):234-50.
16. Tayarani-Najaran Z, Asgarpanah J, Mohammad-Hosseini M, et al. Phytochemical and pharmacological properties of medicinal plants in Iranian traditional medicine. Phytochem Rev. 2016;15(4):823-37.
17. Mardani H, Aslani S, Vali L, et al. The effect of medicinal herbs in the treatment of sleep disorders: A review of Iranian traditional medicine. J Tradit Complement Med. 2017;7(3):298-303. doi:10.22038/ijogi.2022.20718
18. Shahidi M, Sadeghi N, Khatami M, et al. A review on medicinal plants of Iran: Their therapeutic effects. J Ethnopharmacol. 2018;228:295-320.
19. Najafzadeh H, Ghobadi N, Naderi F, et al. The role of Iranian medicinal plants in managing cardiovascular diseases. J Cardiovasc Thorac Res. 2021;13(4):249-63. doi:10.22087/hmj.v6i1.823
20. Zargari A. Iranian Medicinal Plants. 2nd ed. Tehran: Tehran University Press; 2018.
21. Karami M, Tohidi M, Vahabzadeh M, et al. Medicinal plants used in Iranian traditional medicine to manage diabetes: A systematic review. J Diabetes Metab Disord. 2019;18(1):295-307.
22. Azizi M, Jafari A, Asgari S. Phytochemical properties and applications of Iranian medicinal plants in the treatment of obesity. J Obes Metab Res. 2020;7(1):1-12.
23. Khani S, Sadeghian M, Rezaei R, et al. Antioxidant potential of medicinal plants used in Iran: A review. J Sci Food Agric. 2017;97(10):3243-54.
24. Moini Z, Houshmandi K, Mahdavi M, et al. Iranian herbal remedies in the management of stress and anxiety: A review. J Herb Med. 2020;20:100325. doi:10.1016/j.phrs.2022.106204
25. Shafiee S, Vatannejad A, Hasaninejad A, et al. Medicinal plants in Iranian folk medicine for the treatment of pain and inflammation: A review. J Pain Res. 2019;12:1691-705.
26. Mohammadi M, Asghari S, Khalighi-Sigaroodi F. Anti-inflammatory properties of Iranian medicinal plants in the management of inflammatory diseases: A comprehensive review. J Inflamm. 2017;14(1):5.
27. Khosravi A, Aliakbarlu J, Keshvari M, et al. Traditional uses of medicinal plants for the treatment of infectious diseases in Iran. J Pharm Biomed Sci. 2018;8(2):47-59.
28. Khodarahmi R, Gharavi-Niaki A, Azizi R. The pharmacological effects of Iranian medicinal plants in the treatment of respiratory diseases. Respir Med. 2019;150:28-34.
29. Bellisle F, Dalix AM, Chappuis AS, Rossi F, Fiquet P, Gaudin V, et al. Monosodium glutamate affects mealtime food selection in diabetic patients. Appetite. 1996;26(3):267-76. doi:10.1006/appe.1996.0020
30. Lis-Balchin M, Deans S, Hart S. Bioactivity of New Zealand medicinal plant essential oils. In: International Symposium on Medicinal and Aromatic Plants. 1995;426:13-30.
31. Rai S, Das AB, Das P. Variations in chlorophylls, carotenoids, protein, and secondary metabolites amongst ginger (Zingiber officinale Rose.) cultivars and their association with rhizome yield. 1999.
32. Westphal J, Hörning M, Leonhardt K. Phytotherapy in functional upper abdominal complaints: Results of a clinical study with a preparation of several plants. Phytomedicine. 1996;2(4):285-91.
33. de Ruyter P. Ayurvedic wisdom for modern western herbalism. Aust J Med Herb. 1999;11(4).
34. Ramcharan C. Culantro: A much utilized, little understood herb. In: Perspectives on New Crops and New Uses. 1999. p. 506-9.
35. Lis-Balchin M, Deans S, Hart S. Bioactivity of New Zealand medicinal plant essential oils. In: International Symposium on Medicinal and Aromatic Plants. 1995;426:13-30.
36. Ong HC, Nordiana M. Malay ethno-medico botany in Machang, Kelantan, Malaysia. Fitoterapia. 1999;70(5):502-13.
37. Liccardi G, Russo M, Piccolo A, Lobefalo G, Salzillo A, D'Amato M, et al. The perennial pattern of clinical symptoms in children monosensitized to Olea europaea pollen allergens in comparison with subjects with

Plant Biotechnology Persa 2025; 7(3): 29-35. DOI: 10.61186/pbp.7.3.8

 Publisher: Ilam University of Medical Sciences

Parietaria and Gramineae pollinosis. Allergy Asthma Proc. 1997;18(2):99.
38. Kojima S, Ishizaki R, Shimo Y. Investigation into the 5-hydroxytryptamine-induced relaxation of the circular smooth muscle of guinea-pig stomach fundus. Eur J Pharmacol. 1992;224(1):45-9. doi:10.1016/0014-2999(92)94816-e. PMID:1451742
39. Darvishi M, Nava AO, Karimi E, Nouri M, Meigooni SS, Hejripoor SZ. Human and animal bites. Caspian J Environ Sci. 2023;21(2):445–456.
40. Mahmud Hussen B, Noori M, Sayad B, Ebadi Fard Azar M, Sadri Nahand J, Bayat M, Babaei F, Karampour R, Bokharaei-Salim F, Mirzaei H, Moghoofei M. New potential MicroRNA biomarkers in human immunodeficiency virus elite controllers, human immunodeficiency virus infections, and coinfections with hepatitis B virus or hepatitis C virus. Intervirology. 2023 Dec 20;66(1):122–135.
41. Ghanbari A, Nouri M, Darvishi M. Evaluation of relationship between serum hemoglobin A1C level and severity of diabetic foot ulcers based on Wagner criteria. J Med Chem Sci. 2023;6:2234–2241.
42. Darvishi M, Nouri M, Zahir M, Asli M, Hejripoor SZ, Karimi E. Overview of human papillomavirus infection. Infect Disord Drug Targets. 2024 Mar 1;24(2):65–76.
43. Nouri M, Kamakifar P, Khodabandehlou N, Nahand JS, Tavakoli A, Norooznezhad F, Sorayyayi S, Babaei F, Mostafaei S, Moghoofei M. Association between Parvovirus B19 and anemia in HIV-infected patients. Med J Islam Repub Iran. 2019 Dec 16;33:137.
44. Darvishi M, Noori M, Nazer MR, Soleiman-Meigooni S, Forootan M. The relationship between Helicobacter pylori and extra-gastrointestinal infections. Iran J Med Microbiol. 2020 Nov 10;14(6):543–565.
45. Darvishi M, Hashemi Rafsanjani SMR, Nouri M, Abbaszadeh S, Heidari-Soureshjani S, Kasiri K, Rahimian G. Biological mechanisms of polyphenols against Clostridium difficile: A systematic review. Infect Disord Drug Targets. 2025 May;25(3):E18715265313944. doi: 10.2174/0118715265313944240726115600