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Herbal Remedies for Treating Earache in Children: Insights from Iranian Traditional Medicine

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A B S T R A C T

Objective: Ear pain (earache) in children and infants often occurs when the ear canal becomes blocked, preventing fluid from draining. This blockage can lead to ear infections, causing pressure on the eardrum and resulting in pain. Other factors contributing to ear pain include infections, inflammation, fluid buildup, injury, and various health conditions. Ear pain is a particularly distressing condition. In Iranian traditional medicine, medicinal plants have long been used to alleviate ear pain in children. The aim of this study is to identify the medicinal plants effective in treating ear pain in children within the context of Iranian traditional medicine.

Methods: A comprehensive search was conducted using keywords such as "medicinal plants," "traditional medicine," and "migraine" across reputable scientific databases including Web of Science, PubMed, Scopus, and Google Scholar. In the next phase, the extracted articles were carefully evaluated, and those not directly related to the research topic were excluded. Ultimately, only traditional sources that specifically examined the impact of medicinal plants on treating ear pain in children were selected for further review and analysis.

Results: In Iranian traditional medicine, a variety of medicinal plants are used to treat ear pain in children. These include cinnamon, clove, lavender, olive, garlic, licorice, eucalyptus, mint, onion, apple, ginger, radish, basil, echinacea, purslane, and chamomile.

Conclusion: Medicinal plants in Iranian traditional medicine are popular and trusted options for treating ear pain in children due to their natural properties and minimal side effects. These plants, with their anti-inflammatory, antiseptic, and soothing compounds, can help reduce pain and inflammation in children's ears. Utilizing medicinal plants is not only a natural and cost-effective treatment method but also culturally and historically significant, contributing to the preservation and promotion of Iranian traditional medicine. However, given the sensitivity of treating children, these remedies should be used under the supervision of a physician or a traditional medicine specialist to ensure the safety and effectiveness of the treatment.

Keywords: Children, Illness, Ear, Ear pain, Traditional medicine, Medicinal plants

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Introduction

Ear pain in children is one of the most common medical issues, often causing significant concern for parents [1]. It is typically accompanied by symptoms such as restlessness, incessant crying, and disrupted sleep [1]. Ear pain can result from various factors, including middle ear infections, the presence of a foreign object in the ear, or changes in air pressure, each requiring specialized attention and treatment. Among these, middle ear infections are a leading cause of ear pain in children. Preventing ear pain in children requires special care, such as maintaining proper hygiene, avoiding exposure to cigarette smoke, and protecting the ears from sudden changes in air

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pressure [2]. Timely vaccination can also prevent certain infections associated with the middle ear. By following these precautions, parents can help safeguard their children's ear health and prevent more serious complications from arisen [3].

Traditional medicine and medicinal plants have long been used across various cultures to treat ear pain in children [4]. Many parents seek natural and low-risk remedies to relieve their children's ear pain, and medicinal plants like garlic, olive oil, and rose petals are often considered effective options due to their antiseptic and anti-inflammatory properties [5]. While these methods may offer temporary relief, it is crucial that treatment be conducted under medical supervision to ensure proper diagnosis and to avoid potential complication [6].

Since children are often unable to accurately describe their pain, timely diagnosis and treatment are essential. In Iranian traditional medicine, medicinal plants have been used to alleviate ear pain in children. The present study aims to identify the medicinal plants effective in treating ear pain in children within the context of Iranian traditional medicine.

Materials and Methods

In this study, a comprehensive search was initially conducted using keywords such as "medicinal plants," "traditional medicine," and "migraine" across reputable scientific databases, including Web of Science, PubMed, Scopus, and Google Scholar. In the subsequent phase, the retrieved articles were carefully evaluated, and those not directly related to the research topic were excluded. Ultimately, only traditional sources that specifically examined the impact of medicinal plants on the treatment of ear pain in children were selected for further review and in-depth analysis.

Results

The findings indicate that medicinal plants such as cinnamon, clove, lavender, olive, garlic, licorice, eucalyptus, mint, onion, apple, ginger, radish, basil, echinacea, purslane, and chamomile are used in Iranian traditional medicine for treating ear pain in children. A detailed list of medicinal plants effective in alleviating ear pain is presented in Table 1.

Table 1. List of Medicinal Plants Effective for Ear Pain in Iranian Traditional Medicine.

Persian name	English name	Scientific name	Herbal name	Effect
Darchin	Cinnamon	*Cinnamomum verum*	Lauraceae	Children's earache
Mikhat	Clove	*Syzygium aromaticum*	Myrtaceae	Children's earache
Ostokhodous	Lavender	*Lavandula angustifolia*	Lamiaceae	Children's earache
Zeytoun	Olive	*Olea europaea*	Oleaceae	Children's earache
Sir	Garlic	*Allium sativum*	Amaryllidaceae	Children's earache
Shirinbian	Liquorice	*Glycyrrhiza glabra*	Fabaceae	Children's earache
Okaliptus	Eucalyptus	*Eucalyptus camaldulensis*	Myrtaceae	Children's earache
Naena	Mint	*Mentha spicata*	Lamiaceae	Children's earache
Piaz	Onion	*Allium cepa*	Amaryllidaceae	Children's earache
Sib	Apple	*Malus domestica*	Rosaceae	Children's earache
Zangabil	Ginger	*Zingiber officinale*	Zingiberaceae	Children's earache
Torobche	Radish	*Raphanus sativus*	Brassicaceae	Children's earache
Reyhan	Basil	*Ocimum basilicum*	Lamiaceae	Children's earache
Sarkhgargol	Echinacea	*Echinacea angustifolia*	Asteraceae	Children's earache
Khorfeh	Purslane	*Portulaca oleracea*	Portulacaceae	Children's earache
Babouneh	Chamomile	*Matricaria chamomilla*	Asteraceae	Children's earache

Table 1 provides a list of medicinal plants used in traditional medicine for treating ear pain in children. This analysis examines the distribution and diversity of these plants, the reasons for their use in

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traditional medicine, and identifies any common features or patterns that may be relevant to their therapeutic applications.From the table, it is evident that these 16 plants belong to 13 different plant families. Most of the plants listed (such as clove, chamomile, and echinacea) are known for their anti-inflammatory properties, which are significant for treating ear pain, often caused by inflammation due to infections or injuries. Several plants (such as garlic, clove, eucalyptus, and onion) exhibit strong antibacterial and antiviral activities, which can help reduce the risk of infections that might cause ear pain. Additionally, plants like chamomile and lavender are traditionally recognized for their soothing and calming effects, which may be beneficial in alleviating pain or discomfort in children.

Discussion

Ear pain in children is a common issue that can arise from various factors, including infections, inflammation, or physical injuries [6]. Traditional medicine and the use of medicinal plants have long held a significant place in different cultures for treating such ailments. These plants, due to their anti-inflammatory, antiseptic, and natural analgesic properties, can be effective in alleviating and treating ear pai [7].

One frequently used medicinal plant for ear pain is garlic [8]. Garlic is known for its strong antibacterial and antiviral properties, which can help reduce ear infections [8]. Another effective plant for treating ear pain is chamomile [9]. Chamomile tea, with its anti-inflammatory and soothing properties, can help decrease ear inflammation and alleviate pain [9].

Olive oil is another natural remedy for ear pain. It is recognized as a natural moisturizer and mild analgesic [10]. A few drops of warm olive oil in the ear can help soften earwax and provide pain relief.

In addition to these plants, others such as eucalyptus, mint, purslane, ginger, licorice, and chamomile can also be effective in relieving ear pain due to their analgesic, anti-inflammatory, antimicrobial, and soothing effects [11-14]. Eucalyptus, for instance, can help reduce ear inflammation due to its anti-inflammatory and antibacterial properties. Mint, with its menthol content, is known as a natural analgesic that can aid in relieving ear pain [11-14].

The analysis of medicinal plants used for treating diseases reveals a significant ethnobotanical richness, highlighting plants with anti-inflammatory, antimicrobial, and soothing properties. While these plants provide accessible and effective options, further research is essential to standardize their use and develop evidence-based guidelines for their application [15]. Continuous documentation and research on traditional practices are crucial for bridging the gap between ethnobotanical knowledge and modern medical practice [16].

Conclusion

Despite the potential benefits of these medicinal plants, their use must be approached with caution and under the supervision of a healthcare provider. Improper use of medicinal plants can exacerbate the problem or cause side effects. Therefore, it is recommended to consult with a healthcare professional before using any herbal remedies to ensure their safety and effectiveness. This is particularly important for children, who are more sensitive and require careful consideration.

Statements and Declarations

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.

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Author contributions:

MS: Conceptualization, the original draft writing, investigation, writing including reviewing and editing and investigation and formal analysis; SKM: Conceptualization, supervision, and project administration; SKM and MS Conceptualization, the original draft writing, investigation, writing including reviewing and editing.

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