

Overview of Herbal Medicine Use in Gastroenteritis in Saudi Arabia

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Abstract:

Background: Herbal and traditional medicines have long been a cornerstone of healthcare practices in various cultures worldwide, particularly in regions like Saudi Arabia. Despite the advances in modern medicine, many individuals in these regions continue to rely heavily on these age-old practices. Across a series of studies conducted from 2020 to 2023, the utilization and perceptions of these remedies among the Saudi Arabian population were scrutinized.

Findings: The investigations have highlighted a pervasive reliance on herbal and traditional remedies. The studies collectively demonstrate that a significant proportion of both adults and children in Saudi Arabia resort to these treatments, often without seeking professional advice. While many perceive these remedies as safer alternatives to modern medicine, there's a considerable gap in knowledge about potential risks and side effects.

Conclusion: The studies provide a comprehensive understanding of the deep-rooted cultural reliance on herbal and traditional medicines in Saudi Arabia. Despite the ubiquity of these remedies, there's a pronounced lack of professional guidance availed by users, emphasizing the urgent need for increased awareness, education, and regulatory oversight. To ensure the health and safety of the population, healthcare providers, educators, and policymakers in the region are advised to address this trend proactively. Bridging the divide between traditional beliefs and modern medical knowledge is imperative for the safe and effective use of herbal and traditional medicines.

Introduction:

Gastroenteritis, often colloquially termed the 'stomach flu,' is a widespread ailment characterized by the inflammation of the gastrointestinal tract encompassing both the stomach and the small intestine. Typical symptoms include diarrhea, vomiting, abdominal cramps, and occasionally, fever [1]. Globally, gastroenteritis is not just a fleeting medical concern; it stands as a monumental health challenge, inflicting significant morbidity and mortality. Particularly in low-income nations, the threat is pronounced. However, a misconception might arise that affluent or middle-income nations, such as Saudi Arabia, are insulated from its impact. This is far from the truth, as gastroenteritis continues to pose significant health challenges even in these regions [2].

Historically, humanity has consistently turned to nature for remedies, and this is prominently seen in the realm of herbal medicine. Defined as the use of plants or their derivatives to address health issues, herbal medicine offers a repository of solutions and relief from various ailments [3]. Saudi Arabia, with its rich tapestry of cultural and historical narratives, is no stranger to the embrace of traditional medicine. The arid expanses of the Saudi Arabian Peninsula are paradoxically lush with a diverse assortment of medicinal plants. These plants, sometimes unique to the region, have found their way

into the annals of traditional Saudi medical practices for a plethora of ailments, gastroenteritis being a prime example [4].

In the contemporary age, where pharmaceuticals dominate the therapeutic landscape, one might expect traditional remedies to fade into obscurity. However, the opposite trend is witnessed. The global community, driven by diverse motivations - from a yearning for natural treatments, cultural and ancestral beliefs, to concerns over the side-effects of synthetic drugs - is gradually pivoting back towards herbal solutions [5]. Saudi Arabia, a nation where the ancient coexists with the modern, exemplifies this trend. In the context of gastroenteritis, Saudi traditions are replete with references to herbal concoctions, infusions, and treatments. These remedies, handed down through generations, promise relief and sometimes even cures for this distressing ailment. [6]

Many medicinal herbs have established uses in health care. For example, herbs from the Schizandra, Astragalus, and Ligusticum species have been traditionally utilized for treatments in China for ages. Both Ligusticum and Astragalus are known for boosting immunity, while Schizandra is employed to address viral chronic hepatitis. Ephedra, another Chinese herbal medicine (CHM), has shown effectiveness in addressing respiratory issues. Moreover, CHM has been recognized

for its potential in treating breast cancer. Studies indicate that CHM can help mitigate side effects linked to breast cancer treatments, especially those arising post-chemotherapy like vomiting, tiredness, and diarrhea, predominantly in stage IV patients. Additionally, certain Chinese herb combinations, termed Chinese formulations, have exhibited properties that might inhibit the expansion and potential spread of malignant cells. Research in Iran has also highlighted the benefits of medicinal plants in treating respiratory ailments, suggesting that plants could be a promising source for future medicinal and pharmacological developments. [7-12]

In Saudi Arabia, like many Middle Eastern nations, the healthcare framework predominantly operates on a modern medical model. However, traditional herbal medicines (HMs) maintain significant popularity among the local populace. Anything purporting medicinal properties or containing potentially medicinal components, ranging from herbal concoctions to health supplements and medicated cosmetics, necessitates registration with the Ministry of Health (MOH). Unlike their contemporary counterparts, these traditional HMs often lack comprehensive scientific evidence concerning their safety and efficacy, as they aren't subjected to thorough clinical evaluations and post-approval scrutiny. As a result, there's growing apprehension about HM safety among regulatory agencies, medical professionals, and the general public. [13-17]

Herbs have been traditionally used as medicine in the Arab region, with its people being pioneers in employing herbs to treat various health issues, including epilepsy, mental health challenges, and cancer. In Saudi Arabia, diabetic patients often use herbs such as black seeds and aloe, though their efficacy for these conditions remains uncertain. Research indicates that nearly 29% of adult Saudi patients with neurological disorders engage in the practice of traditional medicine, particularly the use of herbs. Moreover, there's a notable prevalence of herb usage among cancer patients in Riyadh, yet comprehensive studies detailing this pattern in Saudi Arabia are scarce. [7]

This article, therefore, ventures into this fascinating intersection of tradition and health in Saudi Arabia. Through its course, we will explore the myriad of herbal remedies traditionally invoked against gastroenteritis. We will delve into their historical roots, understanding their cultural significance, probe their claimed benefits,

and critically, evaluate them through the lens of modern scientific scrutiny.

Herbal Medicine Usages in Gastroenteritis:

This section delves into the traditional herbal remedies employed generally for Gastroenteritis.

1. Peppermint (*Mentha piperita*)

Traditionally, peppermint has been utilized for diverse stomach disorders. Its antispasmodic properties aid in relieving stomach cramps, a frequent symptom of gastroenteritis [18]. Additionally, peppermint can ameliorate an inflamed stomach lining and mitigate nausea.

2. Ginger (*Zingiber officinale*)

A cornerstone in traditional Chinese medicine and Ayurveda, ginger's anti-nausea effects are well-documented [19]. Consuming ginger root or its tea can help subdue vomiting and nausea. Its inherent anti-inflammatory properties further assist in pacifying the gastrointestinal tract.

3. Chamomile (*Matricaria chamomilla*)

Studies indicate that chamomile tea has promising effects on the digestive system, including the reduction of inflammation and easing of stomach cramps [20].

4. Slippery Elm (*Ulmus rubra*)

Slippery elm's mucilage, a gel formed from the inner bark, offers a protective coating for the stomach and intestines. This coating is beneficial in soothing inflammation and irritation seen in gastroenteritis [21].

5. Rice Water

Rice water has traditionally been recommended for diarrhea and demonstrates a soothing effect on the stomach's lining [22].

6. Fennel (*Foeniculum vulgare*)

Known for its carminative properties, fennel seeds can alleviate gas from the intestines [23], offering relief from bloating and gastroenteritis-associated discomfort.

7. Licorice (*Glycyrrhiza glabra*)

Research suggests that licorice root has anti-inflammatory capabilities, which can be beneficial for gastroenteritis [24]. However, it's imperative to be cautious with dosage and duration due to potential side effects.

While herbal remedies might offer symptomatic relief, addressing the underlying cause of gastroenteritis is pivotal. The effectiveness and response to these remedies can be individual-specific. It's always paramount to consider potential interactions with other medications and to seek guidance from a healthcare practitioner before initiating herbal treatments.

Limitations of Herbal Medicines in Gastroenteritis:

While herbal medicines have been traditionally employed for a myriad of health conditions, including gastroenteritis, their use is not devoid of limitations. Several challenges and concerns related to the utilization of these remedies in the management of gastroenteritis are highlighted below:

1. Lack of Standardization:

Herbal medicines can vary significantly in potency and composition, depending on factors such as cultivation, harvesting, and preparation [25]. This variation can lead to inconsistencies in therapeutic outcomes and potential adverse effects.

2. Incomplete Research Data:

While some herbs have undergone rigorous scientific investigations, many have been studied insufficiently to establish their efficacy and safety fully [26]. As a result, the evidence supporting the use of certain herbal remedies for gastroenteritis might be anecdotal or based on traditional beliefs rather than robust clinical trials.

3. Potential Drug Interactions:

Herbs can interfere with the metabolism and efficacy of prescription and over-the-counter drugs [27]. For instance, certain herbal remedies may either potentiate or diminish the effects of medications commonly prescribed for gastroenteritis, leading to unpredictable outcomes.

4. Adverse Side Effects:

Not all herbal medicines are benign. Some can cause side effects or allergic reactions [28]. For example, while licorice root may offer anti-inflammatory benefits, prolonged usage can lead to problems such as hypertension.

5. Overharvesting and Sustainability Concerns:

Increased demand for certain medicinal plants can lead to their overharvesting, potentially endangering their survival and affecting ecosystems [29].

6. Misidentification and Adulteration:

There have been instances where one herb was mistaken for another or adulterated with other substances, leading to unintended and sometimes harmful effects [30].

while herbal medicines offer a potential alternative or adjunctive treatment for gastroenteritis, it is crucial to approach their use with caution and knowledge. Patients and practitioners should be well-informed about the potential limitations and risks associated with herbal remedies.

Situation in Saudi Arabia:

Ahmad Alamoudi et al. (2021) conducted a study in Saudi Arabia to explore the usage patterns of herbal medications and associated factors. Surveying 380 adult patients from a tertiary care hospital in Jeddah, the study found that 55.6% of participants had used herbs in the past year, and 59% noted family members had done the same. Interestingly, 62.6% of these patients utilized herbal remedies without prior medical consultation. The primary influencers for herb usage were recommendations from family (57.8%), social media (22.5%), doctors (8.1%), books (6.6%), and TV (5%). Anise emerged as the most popular herb, with cumin and cinnamon following closely. The study underscores the widespread adoption of herbal medicines in Saudi Arabia, primarily guided by familial experiences and social media. [7]

Ahmad H. Alghadir et al. (2021) undertook a study to comprehend patient perspectives on the safety of herbal medicines (HMs) and their combined use with contemporary medicines, along with counseling regarding their consumption. Implementing a cross-sectional survey design, the findings indicated that 76.83% of the participants used HMs for various health issues. Surprisingly, demographic characteristics didn't influence herbal usage. Alarming, 76.72% of respondents consumed HMs without professional guidance, raising concerns about potential adverse reactions and drug interactions. The study concludes with a call for healthcare professionals, specifically physicians and pharmacists, to proactively provide well-researched information on HMs, focusing on their efficacy and potential side effects, and to exercise caution during prescription and drug dispensing. [13]

In another study, Riaz Ullah et al. (2020) explored the rich heritage of medicinal plant-based traditional medicine in the Kingdom of Saudi Arabia, underscoring its deep-seated ties to natural treatments, dietary habits,

and cultural healing practices. they identified 96 plant species across 47 families that find a place in Saudi traditional medicine. Notably, the Amaranthaceae family was the most represented with seven species, followed closely by Asteraceae, Apocynaceae, and Fabaceae, each with five species. These plants serve as remedies for diverse health issues, emphasizing the importance of ensuring their safe use among the Saudi populace. The study further highlighted the prominence of herbs and subshrubs, constituting 43% and 30% of the medicinal forms respectively. In terms of preparation, decoctions and infusions were predominant, while entire plants, leaves, seeds, and aerial parts were the most favored components, accounting for 29%, 28%, 7%, and 5% respectively. [31]

Syed W et al. (2022) delved into alternative treatments for respiratory disorders, emphasizing the potential of herbal medicines to alleviate symptoms and enhance respiratory functions. The research aimed to gauge Saudi students' attitudes, usage patterns, and beliefs about herbal and dietary supplements concerning respiratory infection prevention. From the 274 participants, predominantly aged around 21.9 years, it was found that 62.7% had used herbal medicine (HM). Nearly half reported occasional HM usage during respiratory illnesses. A significant 66% believed HMs could curtail respiratory symptoms and fortify immunity. Ginger extract was perceived by 75.2% as beneficial for its antiviral and immune-boosting properties, followed by garlic extract (59.5%), cinnamon (39.4%), and lemongrass (38.3%). Furthermore, between 37% to 45.6% believed that vitamins C and D played roles in enhancing immunity and decreasing respiratory infection risks. Interestingly, males exhibited higher positive beliefs and practices scores than females. The study underscores a notable inclination towards the use and belief in herbal and dietary supplements for bolstering immunity against respiratory issues among Saudi students. [32]

In a study aimed at understanding the popularity and perceptions of herbal medicine in Saudi Arabia, Alkhamaiseh, S. I., & Aljofan, M. (2020) founded that despite the global availability of scientifically-backed medicines, many opt for lesser-known herbal therapies without scientific validation, especially in developing nations like Saudi Arabia. In this study participants were chosen from local malls and recreational spots. A striking 94% (1,226 out of 1,300) of the participants reported using herbal remedies. Traditional beliefs (57%) and family recommendations (34%) were the

primary driving factors. Interestingly, younger participants (<35 years old) from urban areas exhibited more awareness of herbal medicine use and related risks than older participants. Although a significant 46% reported side effects, 54% still preferred herbal remedies as primary treatment. The main rationale behind this choice was the perception of herbal medicines being safer, more effective, and cost-effective than conventional medicines. The study concludes that there's a concerning trend of widespread use of unvalidated herbal medicines coupled with a lack of knowledge about their potential risks among participants. [33]

In a study based in Bisha, Saudi Arabia, Alfaifi, J. A., et al. (2023) investigated the widespread use of traditional medicine (TM) in children, particularly in developing countries, to understand parents' perceptions and practices. Out of 555 participants, a majority were female, Saudi nationals, married, and held bachelor's degrees. Over half reported using TM, primarily believing it had fewer side effects and could coexist with modern medicines. Nevertheless, a significant number were skeptical of TM's universal safety and efficacy. Knowledge on TM varied, with older and more educated participants scoring higher. Interestingly, younger, male participants, especially those with healthcare-related occupations or lower educational levels, displayed a more positive attitude and practice towards TM. The study underscores the importance of regulatory oversight for TM to guarantee its safety and efficacy. Furthermore, it suggests that healthcare providers should be well-versed in TM to advise parents effectively on its use for children. [34]

Discussion:

In Saudi Arabia, a significant proportion of the population, including adults and children, resort to herbal and traditional medicines. Ahmad Alamoudi et al. (2021) found that 55.6% of surveyed adult patients had used herbal remedies in the past year, largely without medical consultation [7]. Ahmad H. Alghadir et al. (2021) echoed similar findings, reporting that 76.83% of participants consumed herbal medicines, alarmingly, mostly without professional guidance [13]. Delving into the country's rich traditional medicinal heritage, Riaz Ullah et al. (2020) identified 96 plant species used in local remedies, emphasizing their deep-rooted cultural significance [31]. Among Saudi students, Syed W et al. (2022) observed a marked inclination towards herbal treatments for respiratory disorders, with 62.7% having used such remedies and 66% believing in their

protective and therapeutic effects [32]. Alkhamaiseh, S. I., & Aljofan, M. (2020) underscored this trend, noting that 94% of their participants used herbal therapies, driven predominantly by traditional beliefs and family recommendations, even though a significant number reported side effects [33]. In the context of children, Alfaifi, J. A., et al. (2023) highlighted that over half of the parents surveyed used traditional medicine for their offspring, exhibiting mixed perceptions regarding its safety and efficacy [34]. These findings collectively underscore a pervasive reliance on herbal and traditional medicines in Saudi Arabia, often without adequate knowledge or professional guidance.

Conclusion:

The studies provide a comprehensive understanding of the deep-rooted cultural reliance on herbal and traditional medicines in Saudi Arabia. Despite the ubiquity of these remedies, there's a pronounced lack of professional guidance availed by users, emphasizing the urgent need for increased awareness, education, and regulatory oversight. To ensure the health and safety of the population, healthcare providers, educators, and policymakers in the region are advised to address this trend proactively. Bridging the divide between traditional beliefs and modern medical knowledge is imperative for the safe and effective use of herbal and traditional medicines.

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