



**INTERNATIONAL JOURNAL OF
PHARMACEUTICAL SCIENCES**
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: <https://www.ijpsjournal.com>



Review Article

A Comprehensive Review on Polyherbal Memory Tonic

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ARTICLE INFO

Published: 18 Dec 2025

Keywords:

Polyherbal memory syrup;
Herbal Syrup; sugar-free vs.
natural maple.

DOI:

10.5281/zenodo.17974616

ABSTRACT

Polyherbal memory syrup is a traditional, combination herbal medicine that offers potential benefits for memory and cognition, such as synergistic effects, holistic treatment, and improved patient compliance, due to its natural origin and multi-target action. While general reviews highlight the advantages of such formulations, specific product reviews for a particular "Polyherbal Memory Syrup" are not available; however, common ingredients like Shankhpushpi are used, and research supports the efficacy of these traditional remedies. Polyherbal memory syrup is a traditional herbal medicine that offers benefits for memory and cognition, including synergistic effects, holistic treatment, and improved patient compliance. Its natural origin and multi-target action make it a safer alternative to synthetic alternatives. The synergistic effect of multiple herbs can lead to a more comprehensive treatment approach, and the combination of herbs can potentially reduce the risk of side effects and toxicity. A review of syrups ultimately concludes that their success depends entirely on their application—culinary or medicinal—and the specific formulation used. In medicinal contexts, syrups are a highly effective delivery vehicle, particularly for pediatric and geriatric patients, due to their palatability and ease of swallowing. Their primary advantages lie in high patient compliance and relatively fast absorption rates. However, potential drawbacks include stability issues, high sugar content in traditional formulas, and the need for rigorous quality control to prevent contamination or adverse drug interactions, especially in complex polyherbal formulations. In culinary contexts, syrups offer versatile sweetening and flavoring solutions. The "review" here focuses on ingredient quality, flavor accuracy, viscosity, and dietary considerations (sugar-free vs. natural maple). Overall, the prevailing themes across all syrup types are efficacy through formulation and the necessity of informed consumption. Consumers must weigh the benefits (convenience, taste, synergistic effects) against the downsides (sugar content, potential side effects, manufacturing inconsistencies) for the specific product in question.

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



INTRODUCTION

Polyherbal memory syrup is a traditional, combination herbal medicine that offers potential benefits for memory and cognition, such as synergistic effects, holistic treatment, and improved patient compliance, due to its natural origin and multi-target action (1). While general reviews highlight the advantages of such formulations, specific product reviews for a particular "Polyherbal Memory Syrup" are not available; however, common ingredients like Shankhpushpi are used, and research supports the efficacy of these traditional remedies (2). Polyherbal memory syrup is a traditional herbal medicine that offers benefits for memory and cognition, including synergistic effects, holistic treatment, and improved patient compliance. Its natural origin and multi-target action make it a safer alternative to synthetic alternatives. The synergistic effect of multiple herbs can lead to a more comprehensive treatment approach, and the combination of herbs can potentially reduce the risk of side effects and toxicity (3). Syrups are often more palatable, making them more acceptable and convenient for patients. However, the effectiveness and safety of any polyherbal syrup depend on the specific herbs included in its formulation. Scientific validation is essential to fully understand the active components, their mechanisms of action, and the efficacy of polyherbal compositions. Finding product-specific reviews for "Polyherbal Memory Syrup" is difficult, as it may refer to many different formulations (4, 5). To find specific syrup, check the ingredient list and research their known properties related to memory and cognition. Consult a healthcare professional before starting any new herbal supplement to ensure it is appropriate for you and won't interact with other medications (6, 7).

2. ADVANTAGES

Polyherbal formulations offer significant advantages over single-herb treatments primarily through enhanced therapeutic effect and reduced toxicity. The principle of synergism means the combination of diverse active principles creates a "potentiating effect," where the total therapeutic outcome is greater than the sum of individual components. This collaborative action allows for lower individual dosages of potent ingredients, reducing the risk of side effects, while other balancing herbs within the formulation can actively counteract or neutralize potential toxicities. The benefit of broad-spectrum action is that the varied constituents target multiple receptors and physiological systems simultaneously, making them well-equipped to address the complexities of multifaceted diseases, particularly those affecting cognitive function. Reviews and studies corroborate these benefits; formulations containing ingredients like Brahmi, Mandukaparni, and Shankhpushpi have shown promise in promoting cognitive improvement, offering neuroprotection against oxidative stress and ischemia, and providing anti-anxiety effects. Despite the rich tradition, an important consideration remains the necessity for rigorous scientific validation and clinical trials to fully understand the precise pharmacodynamic and pharmacokinetic mechanisms of action behind their observed efficacy and safety (8-10).

3. DISADVANTAGES

While polyherbal memory tonics offer benefits, significant challenges and risks exist that warrant careful consideration. A primary concern is chemical incompatibility & instability; the numerous active compounds within the formulation can interact in unpredictable ways, leading to product instability and complex interactions that impact efficacy and shelf-life.



This complexity also raises the potential for adverse reactions; while synergy is the goal, these complex interactions can result in undocumented side effects, and some studies have linked certain herbal products to severe toxicity, including organ damage and neurological issues like hallucinations and convulsions. Furthermore, the industry faces considerable standardization & quality control challenges. Compared to conventional pharmaceuticals, regulation of these complex mixtures is often less stringent, leading to inconsistent composition due to variations in plant sourcing, harvesting, and processing. This inconsistency makes predicting therapeutic effects difficult. A critical safety concern is contamination & adulteration, as herbs can be tainted with heavy metals, pesticides, or undeclared substances from polluted environments or poor manufacturing practices, posing significant health risks. Finally, pharmacokinetic interference is a risk, where components from different herbs may interfere with each other's absorption, distribution, metabolism, and excretion (ADME) in the body, potentially reducing the overall intended therapeutic effectiveness (11-13).

4. METHODS OF PREPARATION OF SYRUP

The choice of method depends on the specific requirements of the formula, prioritizing the stability and integrity of the active ingredients while ensuring a uniform, stable, and palatable final product (14-15).

4.1. Solution with the Aid of Heat (Hot Method)

This method is recognized as the quickest technique for preparing solutions involving ingredients that can withstand heat without damage or volatility. The process begins with the

addition of sucrose to purified water, which is typically boiled to ensure sterility. The mixture is heated with occasional stirring until all sucrose dissolves completely. Once dissolved, the solution is adjusted to the desired volume using boiling water and then cooled. This method is particularly effective for creating simple syrups as well as medicated syrups that contain heat-stable and non-volatile substances, such as Ephedrine Sulfate syrup. However, it is important to exercise caution, as excessive heating or prolonged boiling can lead to the hydrolysis of sucrose into dextrose and fructose, a phenomenon known as invert sugar. This transformation can change the sweetness and coloring of the syrup due to caramelization and increase its susceptibility to fermentation.

4.2. Agitation without the Aid of Heat (Cold Method)

This method is employed specifically for the preparation of medicinal components that are sensitive to heat, ensuring the stability of the final product. The process involves placing ingredients such as sucrose, water, and other components, including flavoring oils or alcohol, into a vessel. These ingredients are thoroughly mixed through mechanical agitation or stirring until all soluble matter is fully dissolved. Notably, this approach is more time-consuming compared to the hot method of preparation. It is particularly suitable for creating syrups that contain volatile ingredients or flavorings, and it is advantageous for large-scale production where mechanical agitators can be utilized effectively.

4.3. Addition of Sucrose to a Medicated Liquid

This method utilizes a medicated liquid, which can be in the form of a tincture, fluidextract, or decoction, as the foundation for creating a syrup. The process begins with preparing the liquid extract from the medicinal agent, usually by



boiling the herbs to concentrate and reduce the volume. Following this, sucrose is introduced to the strained, medicated liquid. In cases where the medicated liquid contains undesirable alcohol-soluble components, these are generally eliminated prior to the addition of the sugar base. This technique is frequently employed for various polyherbal syrups and traditional formulations where herbal extracts constitute the main ingredient.

4.4. Percolation

This method involves the continuous passage of a solvent, referred to as menstruum, through a bed of either a medicating substance or sucrose. The process entails slowly passing purified water or an aqueous solution through a percolator that contains the sucrose or powdered medicinal agent. It is crucial to control the flow rate meticulously to ensure that complete dissolution of the substance occurs. This method is particularly useful in the preparation of syrups, such as ipecac syrup, where the active alkaloids are effectively extracted through this continuous process.

5. RELATED PREVIOUS STUDIES

Hota D et al., 2025 aimed to evaluate the efficacy and safety of poly-herbal formulation (PHF) marketed under brand names like Dizester® Herbal and Great Day® in patients suffering from functional dyspepsia compared to Pantoprazole, a commonly used pharmaceutical treatment. The study included 80 patients, with 40 patients in each treatment arm. The primary objective was to assess the improvement in symptoms using various questionnaires at All India Institute of Medical Science Bhubaneswar, including the Reflux Disease Questionnaire, Short-Form Leeds Dyspepsia Questionnaire, GERD-Health Related Quality of Life Questionnaire, visual analogue

scale (VAS) for pain, and Investigator's Symptomatic Assessment (16).

Handa U et al., 2025 made a safe and effective herbal anti-dandruff shampoo using a marketed herbal tincture. The formulation was prepared by combining natural polyherbal tincture, showing different medicinal effects on hair. The shampoo formulations were assessed using various parameters, including visual observation, pH, consistency, particle percentage, filth dispersion, surface phenomena, and foaming content. The inoculation method showed a strong antimicrobial effect, with the greatest zone of inhibition demonstrating the effectiveness of the formulation (17).

Hung LN et al., 2025 assesses acute toxicity and antidiabetic activity of a new polyherbal preparation, CHM-Tieu duong, in the form of capsules. It was developed based on the traditional use of six indigenous plants from the South-Western region of Vietnam, effective in fighting diabetes, namely *Andrographis paniculata* (leaves), *Centella asiatica* (leaves), *Dioscorea opposita* (tuberous rhizomes), *Gymnema sylvestre* (leaves), *Gynostemma pentaphyllum* (herbs), and *Morus alba* (leaves). The acute toxicity analysis showed that CHM-Tieu duong was orally non-toxic at a single dose of 5000 mg/kgP as it did not cause any pre-clinical changes in experimental mice. The results of the antidiabetic study showed that CHM-Tieu duong exhibited the lowering glucose levels in the alloxan-induced diabetic mice model at the high dose of 1000 mg/kgP dose. The findings demonstrated that CHM-Tieu duong could serve as safe and effective antidiabetic polyherbal combination (18).

Khattak MM et al., 2024 aimed to evaluate the effect of mixed herbs on blood HbA1c, and the liver function tests in type 2 diabetes mellitus (T2DM) patients. This was a quasi-experimental



design where no comparison was made with either placebo or control. We examined the effect of herbs namely, coriander leaves (*Coriandrum sativum*), bunching onion (*Allium fistulosum*), curry leaves (*Murraya koenigii*), and holy basil leave (*Ocimum tenuiflorum*) among T2DM patients. The consumption of mixed herbs was found to be associated with an improvement of HbA1c level among T2DM patients without having any clinically significant change in blood urea, creatinine, and liver enzymes (19).

Gupta N et al., 2024 assess the Immunomodulatory Activity in Swiss Albino Rats Utilizing a Poly-Herbal Formulation. *Cinnamomum Tamala*, *Trachyspermum ammi*, *Curcuma amada*. We are estimating the delayed type of hypersensitivity (footpad swelling), neutrophils adhesion test, and biochemical parameters. TS3 showed 80% immunomodulatory effect on day7, TS2 showed 52%, then an immunomodulatory effect, and TS1 showed 49% immunomodulatory effect on day -7. It has a higher degree of treating delayed types of hypersensitivity reactions and Neutrophil adhesion value (20).

Vijapur LS et al., 2024 formulated a Polyherbal Formulation For Treatment Of Type 2 Diabetes Mellitus. Diabetes is one example of a multifactorial metabolic condition that can lead to multiple consequences, including immunosuppression, liver toxicity, and hyperlipidemia. Therefore, the combination of herbs is needed for disease treatment rather than single-drug therapy. The composition included herbs obtained from reputed suppliers situated in South India. Future clinical studies should include people as volunteers, and the stability of the polyherbal capsules that are being made should be tested. The anti-diabetic effect in vitro was much stronger than that of standard Acarbose. It was

seen that the formulation had a big impact on the measures of fasting blood glucose and lipid profile during an investigation into acute toxicity (21).

Noman MA et al., 2024 focuses on formulation of whitening poly-herbal gel comprising extracts of four medicinal plants include (*Licorice*, *Curcuma longa*, Pomegranate peels, and *Citrus reticulate Blanco* peels), which having significant skin whitening potential for the management of hyperpigmentation problem. These plants have been reported as a good anti-tyrosinase, anti-microbial, antioxidant, antiinflammatory and prevents skin aging. The extraction of *Licorice*, *Curcuma longa*, Pomegranate peels, and *Citrus reticulata blanco* peels were done, and different gel formulation containing 2%, 5% and 10% extract were prepared. Gel was evaluated for physical appearance, consistency, wash ability, homogeneity, pH, spreadability, viscosity, centrifugation test and skin irritation test. Such poly-herbal gel showed good clarity, with yellowish color, translucent appearance, smooth, no grittiness, good consistency, easily remove, good homogeneities, pH, spreadability, viscosity, no phase separation and no skin irritation when applied on the skin for a period of 24 hours. Formulation containing 10% extract appears to be the best formulation followed by 5% then 2%, in case of overall evaluation, such as spread-ability, viscosity, and non-irritancy. These results indicate that the prepared poly-herbal gel formulation has significant potential for skin lightening and treating hyperpigmentation effectively and safely (22).

CONCLUSION

A review of syrups ultimately concludes that their success depends entirely on their application—culinary or medicinal—and the specific formulation used. In medicinal contexts, syrups are a highly effective delivery vehicle, particularly



for pediatric and geriatric patients, due to their palatability and ease of swallowing. Their primary advantages lie in high patient compliance and relatively fast absorption rates. However, potential drawbacks include stability issues, high sugar content in traditional formulas, and the need for rigorous quality control to prevent contamination or adverse drug interactions, especially in complex polyherbal formulations. In culinary contexts, syrups offer versatile sweetening and flavoring solutions. The "review" here focuses on ingredient quality, flavor accuracy, viscosity, and dietary considerations (sugar-free vs. natural maple). Overall, the prevailing themes across all syrup types are efficacy through formulation and the necessity of informed consumption. Consumers must weigh the benefits (convenience, taste, synergistic effects) against the downsides (sugar content, potential side effects, manufacturing inconsistencies) for the specific product in question.

CONFLICT OF INTEREST

None

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HOW TO CITE: Shivam Rathod, R. H. Kale, Aijaz Shaikh, K. R. Biyani, A Comprehensive Review on Polyherbal Memory Tonic, *Int. J. of Pharm. Sci.*, 2025, Vol 3, Issue 12, 2816-2822. <https://doi.org/10.5281/zenodo.17974616>

