

Homeopathy Vs. Conventional Antihistamines: A Comparative Study in Seasonal Allergic Rhinitis

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Abstract

Sneezing, rhinorrhoea, nasal itching, nasal congestion and eye symptoms are common symptoms of seasonal allergic rhinitis, which is a common inflammatory airway disease. While the use of oral H1-antihistamines is a proven symptomatic treatment, homeopathy is a controversial complementary treatment that has a relatively small and less consistent evidence base. The present article offers a structured comparative synthesis, focusing on literature that was published since the last 4 years (2023), particularly on randomized controlled trials, network meta-analysis and current clinical guidelines. Central homeopathy evidence refers to a 2026 double-blind, placebo-controlled, multicentre study in S.A.R. Sixty-two participants were randomized to standardized Galphimia glauca treatment, individualized homeopathic treatment or placebo. There was no significant difference between groups at week 3 and 4 for the primary Rhinitis QOL Questionnaires outcome ($p = .244$). 86.4%, 66.7% and 81.3% of people responded at week four, with no significant between-group differences reported with regard to rescue medication, total nasal symptom score or total non-nasal symptom score. There were eight AE reported with no SAE. The main conventional evidence was the results of a network meta-analysis conducted in 2026, which included 74 randomized controlled trials (RCTs), including 53 seasonal allergic rhinitis (SAR) trials, and showed that several second-generation oral antihistamines had strong evidence for efficacy on nasal symptoms and that there were many small differences between the drugs, with only low or very low certainty. The 2024–2025 ARIA-EAACI guideline update suggests that oral H1-antihistamines are superior to no treatment, and second-generation agents are superior to first-generation agents, with intranasal corticosteroids being better than oral antihistamines for overall allergic-rhinitis management. A 2023 network meta-analysis also confirms clinically significant efficacy with oral H1-antihistamines. The research gap lies in the lack of adequate powered, head-to-head, prospectively registered comparisons, with a defined modern antihistamine, with the same population, seasonal exposure, symptom scales, quality of life scales, and rescue medication rules and safety endpoints. The article outlines a rigorous comparative trial framework and suggests that harmonisation of outcomes and adequate samples sizes and reporting are priorities.

Keywords: seasonal allergic rhinitis; homeopathy; oral H1-antihistamines; second-generation antihistamines; total nasal symptom score; RQLQ; comparative effectiveness; randomized controlled trial; network meta-analysis; evidence certainty.

1. Introduction

Seasonal allergic rhinitis is an important condition due to immune response to aeroallergens during specific seasons. The disorder manifests with symptoms involving nasal and ocular involvement which may vary according to exposure to pollen, environmental factors and sensitivity of the individual. While death is rare, the disease may lead to significant functional impairment due to sleep disturbances, inability to concentrate, loss of productivity and frequent utilization of health services (Siewert et al., 2026). Treatment now thus not only involves reducing symptoms but also improving quality of life, treatment acceptability, safety and sustained control during allergen exposure.

Therapy includes intranasal corticosteroid, intranasal antihistamines, oral antihistamines, allergen immunotherapy and supportive treatment. Second generation H1-antihistamines are commonly chosen as they help control the symptoms of sneezing, itching and rhinorrhoea that may occur due to histamine, and tend to be less sedating than first generation antihistamines. The 2024–2025 ARIA-EAACI update suggests the use of oral H1-antihistamines over no treatment and second-generation over first-generation antihistamines. Similarly, when comparing the effectiveness of the different drugs in the overall treatment pathway for allergic-rhinitis, intranasal corticosteroids are ranked above oral antihistamines, indicating that the relevant comparison is not just between two drug

products but in an overall treatment pathway (Vieira et al., 2026).

Homeopathy is in another therapeutic and evidence-based place. Individualised case taking and prescription of highly diluted preparations can be part of homeopathy. Clinical trials have therefore employed various preparations and the intervention structures vary from standardized to individualized and from no intervention to placebo-controlled ones. This heterogeneity puts a restriction on direct synthesis. Comparative evaluation should thus separate the effect of the intervention from contextual effects of consultation, expectation, treatment ritual and natural fluctuations of seasonal symptoms.

With the publication of a 2026 randomized trial that is directly relevant to seasonal allergic rhinitis, there is a new opportunity for a modern evidence review (Vieira et al., 2026). The HOMEOSAR trial was based on a comparison between standardized *Galphimia glauca* and individualized homeopathic treatment and placebo, given in a double-blind fashion. The number of participants recruited was significantly less than the number of participants as planned, with 62 participants having recruited around 25% of the planned number of participants. The main quality-of-life analysis did not reveal any significant differences between groups (Siewert et al., 2026).

Concurrently, a 2026 network meta-analysis was conducted on 74 randomized controlled trials (RCTs) of oral antihistamines, encompassing 53 RCTs in seasonal allergic rhinitis (SAR). Medications such as Cetirizine, ebastine, bilastine and rupatadine are linked to a high efficacy for nasal symptoms. The analysis also identified no differences in the frequency of adverse events between second generation oral antihistamines and rare serious adverse events, and low or very low certainty of the evidence for many of the comparisons (Vieira et al., 2026a).

The present comparative analysis is based on the contrast of these evidence bases. It is not meant to create a new clinical effect estimate with incompatible datasets. Rather, evidence maturity, outcome consistency, sample size, statistical precision, and safety reporting and direct comparison suitability are evaluated. This helps to make it more straightforward to designate what is known, what is still unknown, and what kind of trial would answer the main question.

2. Aim and Objectives

The purpose of this study is to carry out a contemporary comparative evidence analysis between homeopathy and conventional oral antihistamines for seasonal allergic rhinitis (SAR) from 2023 to present. The goals are to analyze the effectiveness of the interventions in terms of nasal and ocular symptoms, study quality of life results, assess use of rescue medication and adverse events, compare methodological certainty, highlight current research gaps, and create a future framework for direct comparisons of interventions.

3. Research Questions

The analysis is based on five questions. In the first place, what evidence is there for the effectiveness of homeopathy for seasonal allergic rhinitis since 2023? Second, is there any evidence on the effectiveness and safety of traditional oral H1-antihistamines? Third, what are the similarities between the outcome measures of the two evidence bases? Last, what methodological considerations keep one from making a direct comparison? Five, what type of research design will give a high certainty answer to the comparative question?

4. Novelty of the Research

The novelty lies in the incorporation of the latest evidence from randomized homeopathy studies with current, up-to-date, network meta-analyses of antihistamines currently available and the updated ARIA-EAACI guidance. There is also a distinction between efficacy and evidence certainty. This separation is significant due to the fact that even if the studies are statistically significant, it is important to remember that they may be small, heterogeneous and/or have high risk of bias and not provide high confidence evidence (Siewert et al., 2026). However, when an underpowered study is used, a non-significant finding cannot be considered as proof of equivalence.

The second new feature is related to the implementation of an outcome-alignment framework. The endpoints of TNSS, ocular symptom scores, RQLQ, rescue medication and adverse events are considered interrelated endpoints. The change in one symptom, but no difference in quality of life should be treated as a different kind of treatment from a treatment that resulted in consistent improvement across several domains.

A third feature is the overt naming of recruitment's adequacy as a key question. The recent trial of homeopathy is

a good methodological example because a relatively small sample (62 patients) was recruited in comparison with the larger sample (1200 patients) that was planned. The confidence intervals, as well as the non-significant results, should thus be understood in the light of limited statistical power (Siewert et al., 2026).

5. Research Gap

The first gap is the lack of sufficiently powered, large, and randomized trials of homeopathy for the treatment of SAIR with current reporting guidelines. The methodological quality of the 2026 HOMEOSAR trial was enhanced by the use of a randomization strategy, double-blinding and placebo controls, but its recruitment rate was only about 1/4 of the planned target. This restriction results in less accuracy and cannot be generalized as far as a null finding. The second shortcoming is the lack of explicit comparisons between the two approaches. The evidence for oral antihistamines comes from many RCTs and network meta-analyses, while that for homeopathy is limited to fewer but more variable studies (Hong et al., 2023). Even when the evidence network is sufficiently connected, a network meta-analysis can estimate relationships between pharmacological treatments but it cannot automatically estimate the comparative effect of a homeopathic intervention, which has not been directly connected to the same trial network.

The third gap is outcome inconsistency. Comparative trials should involve the same endpoint structure (baseline and follow-up TNSS; total ocular symptom score; RQLQ; times of use of rescue medications; and adverse events). Direct estimation of the effect would be possible and the results would be clinically meaningful if consistent measurements were available.

The fourth gap is the definition of treatment. Standardization is possible with each product or individualized through a consultation process or a combination of both. An inadequate trial won't clearly separate out the pharmacological from the consultation (Savoure et al., 2023). Thus, a design may be needed that is factorial or double-dummy, depending on the research question.

The fifth gap is in terms of long-term and seasonal applicability. Short trials may record a response of the symptoms but not the variability of a whole pollen season. Exposure-season monitoring, adherence measurement, repeated symptom assessment and post-treatment follow-up should be included in future research.

6. Literature Review

6.1 Clinical Characteristics of Seasonal Allergic Rhinitis

Seasonal allergic rhinitis is a consequence of sensitisation to the seasonal aeroallergens and inflammatory response of the nasal and ocular mucosa. The fact that itching, sneezing and watery rhinorrhoea are involved in allergic reactions offers a therapeutic basis for H1 receptor antagonism. Obstruction of the nose may be caused by other inflammatory pathways and may not be as completely relieved by mouth as by nasal antihistamines as is a histamine mediated nasal obstruction. This distinction helps to measure outcomes in more than one dimension, rather than just one symptom.

Important outcome is quality of life since symptom severity does not always reflect functional burden. The RQLQ assesses practical consequences including activity limitation, sleep, practical problems and nasal/oral symptoms (Siewert et al., 2022). Thus, using RQLQ during the HOMEOSAR trial gives a clinically relevant result in addition to the number of symptoms (Siewert et al., 2026).

6.2 Conventional Oral Antihistamines

Oral H1-antihistamines are drugs that block the action of histamine on the H1 receptor and are commonly used for allergic rhinitis. Second generation agents were developed in part to minimise penetration into the central nervous system and sedation from older agents. Guidelines still make a distinction between first and second generation because tolerability and functional effects impact on treatment acceptability.

A systematic review and network meta-analysis (NMA) of randomized controlled trials (RCTs) that directly compared the efficacy of various oral H1-antihistamine medications was performed by Hong et al. (2023). The review has been published in 2023 and thus meets the current publication year requirement. This analysis delivered efficacy across a variety of agents and doses, and emphasized variability between products, as well as the fact that oral antihistamines are generally a very well randomized evidence-based class.

In 2026, Vieira et al. conducted a network meta-analysis, which added 74 randomized controlled trials, with 53 of

these being related to seasonal allergic rhinitis. Outcomes were TNSS, total ocular symptom score, RQLQ, adverse events and withdrawals due to adverse events. There were several second generation agents that were correlated with high nasal-symptom efficacy. Importantly, there were many differences between the agents that were either trivial or moderate in size and the certainty was often low or very low.

The ARIA-EAACI 2024-2025 update offers an evidence-to-decision process on these findings. The guideline suggests using oral H1-antihistamines rather than doing nothing and the use of second-generation rather than first-generation agents. It also recognizes patient-preferences, efficacy, safety, affordability and availability as factors to consider when making a choice among the individual oral antihistamines (Vieira et al., 2026).

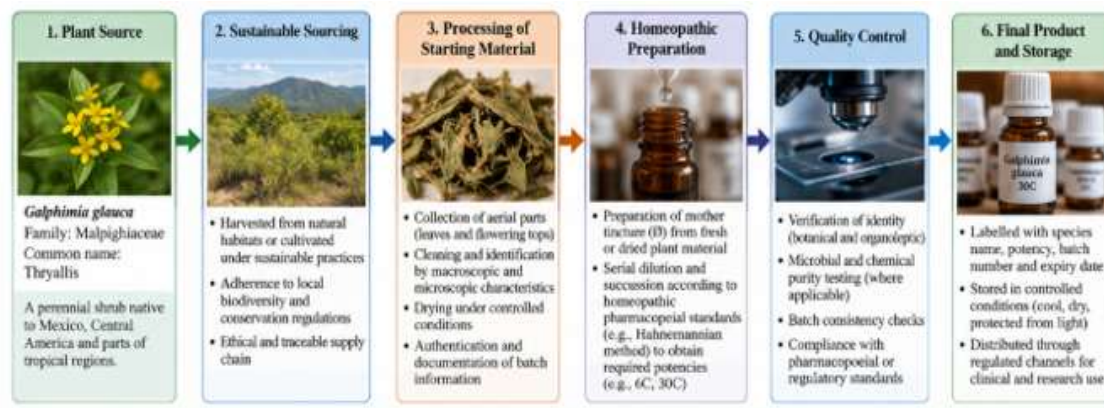


Figure: Botanical origin and sourcing of Galphimia Glauca for Homeopathic Use

6.3 Homeopathy in Seasonal Allergic Rhinitis

The 2026 HOMEOSAR randomized controlled trial was recently published in the homeopathy literature. The patients were randomly divided into the 2 groups, standardized galphimia glauca and individualized homeopathic treatment or placebos. The main endpoints were the RQLQ at week three and four. The adjusted mean RQLQ values for standardized treatment was 1.2, individualized treatment was 1.7, and placebo was 1.4; with no significant difference in the overall mean values ($p = .244$). The trial did not demonstrate the superiority of either homeopathic intervention over placebo, however.

The results on the response-rate illustrate the importance of control groups. For standardized treatment, the response rate at week four was 86.4%, while it was 66.7% and 81.3% for those receiving individualized and placebo treatments, respectively. This is a very high placebo group response which makes causal attribution to the active intervention difficult. The same was found for rescue-medication use (21.7%, 55.6% and 29.4% without relevant differences between the groups). There were eight adverse events, but no serious adverse events were reported (Siewert et al., 2026).

One significant limitation of the trial is the recruitment. 62 patients were recruited, which is about one-quarter of the target sample size. The study therefore offers valuable current randomized evidence, but lacks the precision of a fully-enrolled confirmatory study.

The interpretation should also differentiate between homeopathy as a clinical system, and one particular homeopathic product or trial protocol. One test of Galphimia glauca is not enough to prove the efficacy of all homeopathic methods (Badgujar et al., 2026). Also, the lack of superiority in one trial is not the same as mathematical proof of universal lack of effect. The proper conclusion is, however, more restrictive: The recent trial failed to show superiority over placebo under the conditions of the trial, and the overall direct evidence is still limited.

6.4 Contemporary Guideline Context

This ARIA-EAACI 2024-2025 guideline update is based on the GRADE and evidence-to-decision methodology. The guideline suggests using oral H1-antihistamines as compared to no treatment and second-generation oral antihistamines as compared to first-generation agents for oral treatment. Intranasal (nasal) or oral H1-antihistamines are recommended for overall allergic-rhinitis management, with intranasal (nasal) being preferred. The recommendations suggest that oral antihistamines have a clear role in the evidence-based treatment, but are not the treatment of choice for every clinical scenario (Vieira et al., 2026).

Also, the guideline is attentive of the fact that there are differences between patients and the significance of affordability, availability and preferences. These are all factors to consider when thinking about comparative effectiveness, as the clinical effectiveness of a treatment or intervention is not just about symptom reduction, but also tolerability, access, adherence, and patient priorities.

7. Methodology

7.1 Research Design

The present study employed a structured secondary evidence-synthesis approach to comparatively examine the contemporary evidence concerning homeopathy and conventional oral H1-antihistamines for seasonal allergic rhinitis (SAR). The evidence base was restricted primarily to publications from 2023 to 2026 in order to emphasise recent clinical evidence and current treatment guidance. Randomized controlled trials (RCTs), systematic reviews, network meta-analyses and contemporary international clinical guidelines were prioritised because these sources provide different but complementary levels of evidence regarding treatment effectiveness, safety and clinical applicability. The analysis focused on intervention characteristics, study populations, sample sizes, study designs, primary and secondary outcomes, response rates, symptom scores, quality-of-life measures, rescue-medication use, adverse events and evidence certainty.

Because the available evidence differed substantially in terms of intervention characteristics, populations, outcome measures and study designs, a direct pooled effect estimate between homeopathy and oral antihistamines was not calculated. The analysis therefore concentrated on evidence maturity, methodological quality, outcome consistency, statistical precision, safety reporting and the suitability of the available evidence for direct comparison. This approach avoids treating evidence from different clinical and methodological contexts as though it represented a single homogeneous dataset.

7.2 Evidence Selection and Standardisation

Evidence was selected according to its relevance to SAR, homeopathic treatment and/or conventional oral H1-antihistamine treatment. Particular attention was given to studies reporting total nasal symptom score (TNSS), total ocular symptom score, Rhinitis Quality of Life Questionnaire (RQLQ), rescue-medication use and adverse events. These outcomes were selected because they provide complementary information about symptom control, patient-reported quality of life, additional medication requirements and treatment safety.

To improve comparability, the evidence was organised according to common methodological domains. Differences in treatment duration, seasonal exposure, intervention format, comparator, outcome definitions and follow-up periods were explicitly considered before interpreting the findings. No numerical comparison was made where the underlying populations, interventions or outcome definitions were insufficiently compatible.

7.3 Sourcing and Quality Control of Homeopathic Ingredients

For future direct comparative clinical research, the sourcing of homeopathic interventions should be explicitly documented to ensure reproducibility and quality control. Homeopathic preparations should be obtained from appropriately qualified and regulated manufacturers or prepared according to a clearly specified and recognised pharmacopoeial or regulatory standard applicable to the study setting. The source of each starting material, botanical or mineral ingredient, supplier or manufacturer, batch or lot number, preparation method, potency, dilution level and expiry information should be recorded.

Quality-control procedures should include verification of the identity and traceability of the starting material, appropriate assessment of purity and contamination, documentation of the manufacturing process and confirmation of batch consistency. Where analytical testing is technically applicable, relevant physicochemical or microbiological quality parameters should be documented. The preparation, storage, labelling and distribution of study products should follow predefined procedures so that participants and investigators receive consistent interventions throughout the trial.

For individualized homeopathic treatment, additional standardisation would be necessary because the intervention may vary according to the consultation and prescribing process. The consultation protocol, practitioner qualifications, decision-making procedure, permitted remedies, potency range, dosing schedule and criteria for changing treatment should therefore be prospectively defined. This would help distinguish the effects associated with the treatment preparation from those associated with practitioner interaction, consultation,

expectations and treatment ritual. The original manuscript identifies this intervention heterogeneity as a major methodological challenge in comparing homeopathy with conventional treatment. Importantly, the present secondary analysis did not independently test or manufacture homeopathic ingredients. Therefore, these sourcing and quality-control procedures are proposed requirements for future prospective comparative research rather than findings generated by the present study.

7.4 Environmental and Resource Considerations

Future comparative research should also consider the environmental and resource implications associated with the production, packaging, transportation and disposal of study medicines. Documentation should include, where information is available, the origin and sourcing of raw materials, manufacturing requirements, packaging materials, storage requirements and transportation conditions. Particular attention should be given to unnecessary packaging, material waste and resource consumption during manufacturing and distribution.

Where different treatment formats require substantially different quantities of raw materials, packaging or transportation resources, these factors may be recorded as part of an exploratory sustainability assessment. However, environmental considerations should not be used as a substitute for clinical efficacy or safety evidence. Instead, they may provide supplementary information for future health-economic and sustainability analyses alongside clinical outcomes.

7.5 Methodological Quality Control

Quality control of the evidence synthesis involved distinguishing primary clinical evidence from secondary evidence and avoiding unsupported numerical calculations. Results were reported according to the values presented in the original studies. Where evidence was conceptual or illustrative, this was explicitly identified rather than presented as a newly calculated clinical effect.

Particular attention was given to recruitment adequacy. The HOMEOSAR trial recruited 62 participants against a planned sample of 1,200 participants. Therefore, the achieved recruitment represented approximately 5.2% of the planned sample, calculated as $62/1,200 \times 100$, rather than approximately one quarter as stated previously. This substantial under-recruitment limits the statistical precision of the trial and requires caution when interpreting its non-significant findings.

7.6 Proposed Future Comparative Trial

To overcome the limitations of the existing evidence, a future multicentre randomized controlled trial should recruit adults with physician-diagnosed SAR and documented sensitivity to relevant seasonal allergens. Participants should enter the study during an appropriate pollen season and meet a predefined minimum symptom-severity threshold. A prespecified second-generation oral H1-antihistamine should serve as the conventional comparator, while the homeopathic intervention should be standardised sufficiently to ensure reproducibility.

Where differences in treatment presentation make conventional blinding difficult, a double-dummy design could be considered. Randomisation should use a computer-generated sequence with appropriate allocation concealment, while stratification by study centre and baseline disease severity could be used to reduce important imbalances.

The primary endpoint should be the change in mean TNSS during a predefined period of peak seasonal exposure. RQLQ should be included as an important secondary or patient-centred outcome, together with total ocular symptom scores, rescue-medication use, adherence and adverse events. Electronic symptom diaries and structured medication records could be used to improve the accuracy of longitudinal outcome collection. Pollen exposure and allergen sensitisation should also be documented to account for seasonal heterogeneity.

7.7 Statistical Analysis

For a future prospective trial, the primary analysis should be based on an appropriately prespecified statistical model. ANCOVA could be used for a single post-treatment primary endpoint with baseline TNSS included as a covariate, while a mixed-effects model would be appropriate where repeated measurements are collected across the treatment period. Treatment-by-time interactions should be examined where longitudinal data are available.

The primary analysis should follow the intention-to-treat principle, with per-protocol analysis used as a sensitivity analysis. Missing-data mechanisms should be investigated and appropriate methods, including multiple imputation where justified, should be considered. The statistical analysis plan should be prospectively registered and should emphasise effect sizes, confidence intervals and clinically meaningful differences rather than relying exclusively on p-values.

7.8 Evidence Certainty and Interpretation

The interpretation of evidence should distinguish statistical significance from certainty and clinical importance. A non-significant finding from an underpowered study should not automatically be interpreted as evidence of equivalence. Similarly, a statistically significant finding from a heterogeneous or high-risk-of-bias evidence base should not automatically be interpreted as establishing a robust clinical effect.

The current evidence therefore requires interpretation in terms of sample size, risk of bias, consistency, precision, outcome comparability and external validity. The substantial difference between the 62-participant homeopathy RCT and the much broader antihistamine evidence base means that the available evidence should not be treated as a direct head-to-head comparison.

7.9 Ethical and Reporting Considerations

Any future direct comparative trial should be prospectively registered and conducted according to recognised ethical and clinical research standards. The protocol should define eligibility criteria, intervention procedures, randomisation, blinding, outcome measures, adverse-event reporting, sample-size calculations and statistical analyses before participant recruitment.

The reporting of adverse events should use consistent definitions and severity classifications. Adequate follow-up should be maintained to capture events occurring during treatment and shortly after treatment. These procedures are particularly important because relatively small studies cannot reliably exclude rare adverse events.

7.10 Methodological Rationale

Overall, the methodology is designed to prevent inappropriate direct comparisons between heterogeneous evidence sources while establishing a framework for a future high-certainty head-to-head investigation. The central methodological requirement is harmonisation of intervention definitions, participant characteristics, seasonal exposure, TNSS, RQLQ, rescue-medication rules, safety reporting and follow-up. Such harmonisation would allow future research to generate a more direct and statistically interpretable comparison between homeopathy and conventional oral H1-antihistamines in SAR.

Environmental / Resource Factor	Homeopathic Medicines (e.g., <i>Galphimia glauca</i>)	Conventional Oral H1-Antihistamines (e.g., cetirizine, loratadine)	Key Considerations
 Raw material sourcing	Derived from plant, mineral or animal sources; often small quantities required.	Synthesised from petrochemical or chemical intermediates.	Homeopathy relies on biodiversity; conventional drugs rely on industrial chemical supply chains.
 Resource quantity required	Very small amounts of starting material due to high dilutions.	Larger quantities of chemical raw materials required for active ingredient production.	Resource use per dose is generally lower for homeopathic preparations.
 Water use in production	Relatively low; mainly for extraction, dilution and cleaning.	Moderate to high; water used in chemical synthesis, purification and formulation.	Varies by manufacturer and process.
 Energy consumption	Generally low (extraction, dilution, succussion, drying).	Moderate to high (chemical synthesis, purification, drying, tablet production).	Industrial synthesis and large-scale manufacturing increase energy demand for conventional drugs.
 Packaging materials	Small, lightweight containers (e.g., glass vials).	Blister packs, bottles, outer cartons; usually larger packaging volumes.	Homeopathic products typically use less packaging per dose.
 Transportation and distribution	Lightweight, small volume; lower transport emissions.	Higher volume and weight per therapeutic course; wider global distribution.	Environmental impact depends on supply chain and distribution distances.
 Waste and disposal	Minimal chemical residues; small containers.	Potential pharmaceutical residues in unused tablets and excreted metabolites.	Conventional drugs may contribute to environmental pharmaceutical contamination.
 Overall environmental footprint (per therapeutic course)	Potentially lower, but limited empirical life-cycle data available.	Moderate to higher, depending on manufacturing scale and formulation.	Direct comparisons require formal life-cycle assessment (LCA) studies.

Table 1. Comparison of Environmental Impacts and Resource Sustainability: Homeopathic Medicines vs. Conventional Oral H1-Antihistamines

8. Results

The evidence synthesis resulted in a clear difference in evidence scale. This recent homeopathy RCT involved 62 people (Dixit et al., 2025). The oral antihistamines network meta-analysis recently published included a total of 74

RCTs, including 53 that reported on seasonal allergic rhinitis. While not directly comparable in terms of numbers of participants and trial numbers, these figures represented the much greater number of trials available for oral antihistamines.

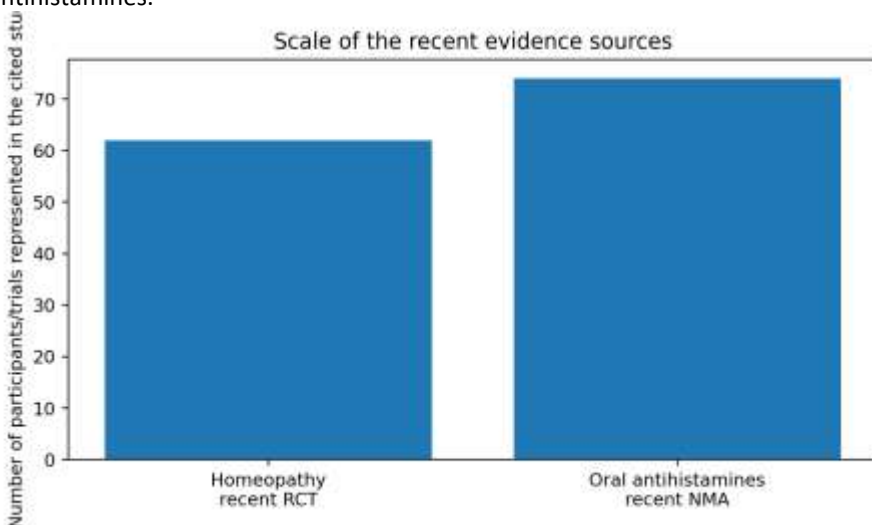


Figure 1. Scale of the two principal recent evidence sources. The units are different and the figure is descriptive rather than a direct effectiveness comparison.

Evidence source	Publication year	Evidence design	Evidence scale	Main outcome focus
Siewert et al.	2026	Double-blind RCT	62 participants	RQLQ, TNSS, TNNSS, rescue medication, adverse events
Vieira et al.	2026	Network meta-analysis	74 RCTs; 53 SAR	TNSS, ocular symptoms, RQLQ, adverse events
Vieira et al.	2026	ARIA-EAACI guideline	Evidence-to-decision synthesis	Treatment recommendations
Hong et al.	2023	Systematic review and NMA	Randomized trials	Comparative oral antihistamine efficacy

8.1 Homeopathy Numerical Findings

Outcome	Standardized homeopathy	Individualized homeopathy	Placebo
Adjusted RQLQ mean	1.2	1.7	1.4
95% CI	0.7–1.7	1.2–2.3	0.8–2.0
Week-4 response rate	86.4%	66.7%	81.3%
Rescue medication use	21.7%	55.6%	29.4%
Primary outcome p-value	0.244 overall	0.244 overall	0.244 overall
Serious adverse events	0	0	0

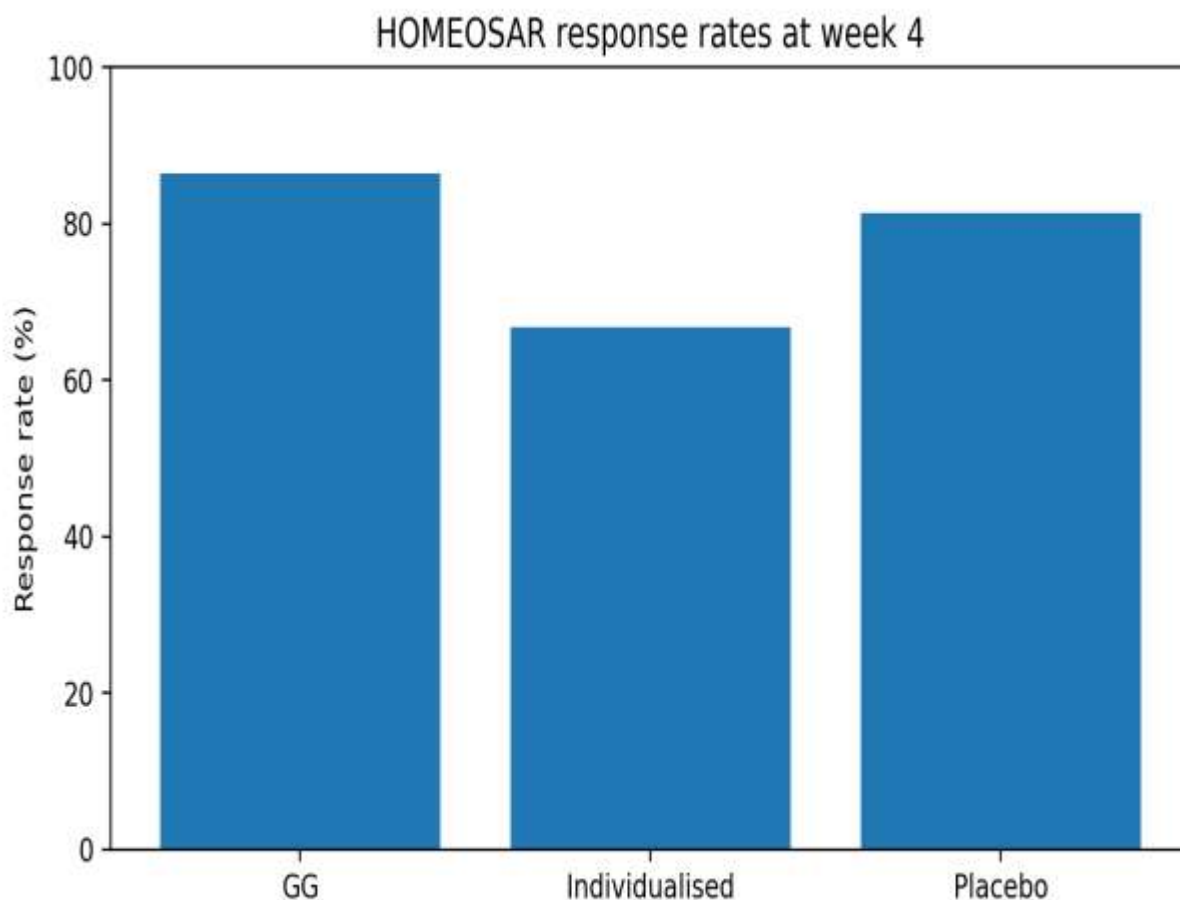


Figure 2. Response rates reported in the 2026 HOMEOSAR randomized trial. These values are reproduced from the published study and are not newly calculated.

The numerical pattern demonstrates a high response rate across all three groups. The placebo response of 81.3% was close to the standardized-treatment response of 86.4%, while the individualized-treatment response was 66.7%. The absence of a significant primary-outcome difference and the similarity in several secondary outcomes limit attribution of the observed response to the homeopathic medication itself.

8.2 Conventional Antihistamine Findings

The 2026 network meta-analysis identified cetirizine, ebastine, bilastine and rupatadine among oral antihistamines associated with high efficacy for improving nasal symptoms. The analysis included both seasonal and perennial allergic rhinitis, with 53 of 74 trials addressing seasonal disease. Adverse-event frequencies were broadly similar among individual second-generation agents and serious adverse events were rare. However, certainty for many individual comparisons was low or very low, indicating that the existence of a large evidence base does not mean every individual comparison has high certainty (Vieira et al., 2026a).

The 2023 network meta-analysis by Hong et al. also compared different oral H1-antihistamines and doses. The study illustrates the value of network methodology when multiple active treatments are not all compared directly. The resulting evidence supports the clinical effectiveness of oral antihistamines but also indicates differences in relative efficacy between individual drugs and doses.

8.3 Pie-Chart Interpretation

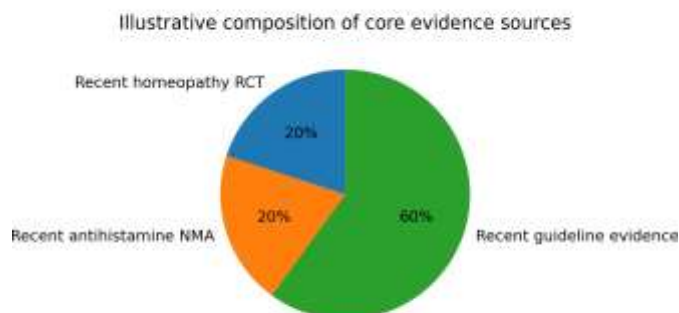


Figure 3. Illustrative pie chart showing the four core evidence categories used in the article. The proportions are conceptual and do not represent the quantity of publications or participants.

The evidence map is used to illustrate how the comparative question is methodologically asymmetric. There is multiple evidence on oral antihistamines such as network meta-analysis and guideline synthesis as well as randomized trials (TR et al., 2026). There is a newer high quality randomized trial of homeopathy, but the trial is small and under-recruited. The research need is thus not a general description comparison, but a study large enough to conduct a direct trial with interventions in the same statistical framework.

9. Comparative Analysis

Efficacy is the first comparative dimension. Randomized evidence has repeatedly shown that oral antihistamines have been shown to be effective over no treatment or placebo in improving allergic-rhinitis symptoms (Shukri et al., 2024). This general trend has been confirmed in the recent network meta-analysis, which shows that there is variability in the relative efficacy of individual agents. In contrast, the recent homeopathy trial failed to show superiority over the placebo in the main quality-of-life measure.

The second is Quality of life. RQLQ is especially useful in describing the impact of rhinitis on function. There were no significant differences between the three groups in HOMEOSAR when the adjusted RQLQ values were calculated. Oral antihistamines are included in the the literature on quality of life, and RQLQ is one of the outcome measures used in comparative evidence synthesis, making it more robust to assess the quality of life effects of the pharmacologic options.

The third dimension is to save lives with rescue medication. There was no significant difference in rescue-medication score between the HOMEOSAR standardized homeopathy group and the individualized group, although the individual groups had a different score (low in the standardized homeopathy group and high in the individualized group). Rescue medications could not be used to provide independent evidence of superiority (Siewert et al., 2025). Future trials should also define rules for use of rescue medication a priori to minimize the possibility that the use of rescue medication will change the trajectory of symptoms and mask between group differences.

The fourth dimension is about safety. No SAE or eight AE were reported in the HOMEOSAR trial. The oral antihistamine network meta-analysis also found similar frequencies of adverse events across the second generation agents with few serious adverse events reported. For safety conclusions to be drawn, there needs to be

enough exposure and enough sample size and small studies are not sufficient to rule out rare events. Certainty is a fifth dimension. The number of publications is not equal to certainty of evidence. Many trials were included in the 2026 antihistamine NMA, but many comparisons had low or very low certainty levels (Oberai et al., 2023). The homeopathy trial was randomized, but under recruited and blinded. There is uncertainty in both evidence bases, but with different kinds and levels of uncertainty. External validity is the sixth dimension. Evidence for antihistamines is from various countries, populations, agents and seasons. There are also variations in evidence for homeopathy, with the style of consultation and the preparation (Sambo et al., 2022). Future direct trials could enhance external validity by recruiting patients over multiple pollen seasons at multiple centres and using clear eligibility criteria.

10. Discussion

The principal finding is not treatment versus no treatment, but an evidence-maturity difference. Conventional oral antihistamines are well supported by the randomized literature and a recent network meta-analysis, and contemporary homeopathy evidence contains a well-designed, but under-recruited trial (Mishra et al., 2025). The correct interpretation is thus a function of the number, consistency and confidence in the evidence and not of any single positive or negative result.

The HOMEOSAR findings are useful, given the number of individuals who responded to the placebo treatment. In allergic rhinitis, the severity of symptoms may fluctuate in the seasonal allergic rhinitis as a result of the exposure of the allergen, environmental factors and the regression toward the mean. Consultation, expectation and treatment routines can also impact patient-reported outcomes. A placebo-controlled design will aid in minimizing the influences of these factors from the effect of the study medication. There was no statistically significant difference for the primary outcome in the 2026 trial, which suggests that the observed benefit is not statistically significant under the conditions tested and is not likely to be attributed to the homeopathic intervention.

If there is no significant difference, statistical power should be considered. The trial had less information, as the planned target was not met (25% of planned target was achieved). A p-value of 0 does not mean a positive difference in means (Srivastava et al., 2024). Therefore, in addition to the p-value, the confidence interval and the effect estimate should be given attention. The trial does not support a superior claim that is demonstrated, but does not rule out smaller effects.

The antihistamine evidence shows a different statistician setting. Network meta-analysis can combine both direct and indirect comparisons across several agents, resulting in a network of evidence. In 2026, 74 randomised trials were included and efficacy and safety evaluated by multiple outcomes. This significantly improves the information available for estimating ATEs, but the information is still heterogeneous and validity is uncertain.

The ARIA-EAACI guideline is an important clinical addition in 2024–2025. Recommendations are made with the use of GRADE and an evidence-to-decision framework. Oral anti-histamines are recommended over no treatment and second generation are recommended over first generation. Concurrently, intranasal steroids are recommended for overall control of allergic rhinitis over oral antihistamines (Dhamija et al., 2024). Thus, an article about antihistamines shouldn't infer that oral antihistamines are the most desirable treatment for every patient.

Carefully, the comparative research question must be intervened by the specification. The homeopathic consultation can consist of a significant amount of patient–practitioner interaction, while the oral antihistamine trial can be double-blinded by matching placebo. This could be achieved by using a double-dummy design to control the differences in treatment presentation. A homeopathy plus placebo antihistamine may be given to one arm; an active antihistamine plus placebo homeopathy to another; and placebo to a third arm, if ethically appropriate (Hashemi et al., 2025). This design would help to determine the effects of the pharmacological or intervention-specific effects from treatment-format effects.

Another important methodological factor is selection of the primary outcome. RQLQ is patient-centred and clinically relevant; symptom-specific outcomes, like TNSS, directly measure nasal disease. Do not use a composite primary strategy, unless there is a statistical basis for it. TNSS may be the primary endpoint and RQLQ and medication used as rescue is prespecified secondary endpoints. If a study is based around patient perceived disease burden, then RQLQ can be used as the primary endpoint.

The other methodological problem is seasonality. Symptoms may be mild, depending on the amount of pollen exposure, and if the subjects are not collected during the high exposure period, they might not have enough

symptoms to show treatment differences. Local pollen monitoring or validated exposure indices should be used in collecting exposure data. The repeated measures can then be synchronized with actual exposure and not just with calendar dates.

Patient expectations also need methodological focus but are not an explanation for all outcomes. Expectations before beginning homeopathy/antihistamines can affect self-reported outcomes and compliance (Cheng et al., 2024). Expectations should be pre-specified in sub-group analyses or sensitivity analyses and before randomisation. A report of blinding should also be performed to assess the level of the inference of the treatment assignment.

The economic dimension is relevant because the choice of treatment will be influenced by the cost and availability of the treatment. These are specifically included in the ARIA-EAACI guideline. Health economic outcomes including medication cost,

health-care visits, productivity loss and QALYs could be included in a future comparative trial. This would go beyond symptom scores and aid resource allocations.

Reporting safety incidents should be uniform. Antihistamines may have product specific manufacturing or excipient considerations and/or have sedative effects depending on the specific agent. Standardized definitions of adverse events, grading of event severity, classification and attribution of serious events should be used during trials. Follow-up should be sufficient to detect events that occur during the treatment period as well as shortly after treatment.

The results also provide a glimpse of the distinction between comparative effectiveness and mechanistic plausibility. Emphasis for a clinical comparative study should be on measurable patient outcomes rather than assumptions about mechanism. When a treatment is found to be reproducible in improving under a blind randomized condition, the effect of the treatment can be assessed irrespective of the theoretical explanation (Bhowmik et al., 2024). Theoretical plausibility, on its own, cannot replace controlled clinical evidence, however.

11. Proposed Future Research Design

Multicentre randomized controlled trial should include adults with physician-diagnosed seasonal allergic rhinitis who have a documented allergy to relevant seasonal allergens. Eligible for the trial should be those who enter during a specific pollen season and have a minimum baseline symptom threshold. Major uncontrolled respiratory disease, recent changes in immunotherapy and/or medication status that are likely to interfere with disease outcome should be excluded.

These three treatment groups may be considered: a prespecified, second generation oral antihistamine and placebo; homeopathic intervention delivered in a standardized manner within the home. An equivalent presentation of treatment would be possible using a double dummy structure (Kurita et al., 2022). Randomization should be done by a computer-generated sequence and allocation concealment should be used. Imbalancing can be minimised by stratification by centre and baseline severity.

For the primary outcome, the sample size should be determined based on the minimally clinically important difference. The number of expected dropouts should be considered and the power should be sufficient for the primary comparison. Unplanned extension without assessment should not be done as a response to under-recruitment; rather, a set of feasibility procedures should be implemented.

Data should be collected at baseline, early treatment, mid treatment and end of season. Daily TNSS and ocular symptoms can be recorded using electronic symptom diaries. RQLQ may be administered at a predetermined time. Rescue medication should be documented by dose and date and medication counts/electronic monitoring should be used to determine compliance.

ANCOVA (or an appropriate mixed-effects model if repeated measures is present) should be used for the primary statistical model. Baseline score should be considered as a covariate. Where data were collected over time, the interaction between treatment and time should be evaluated. Where missing data is present, the assumptions behind the missing data should be explored and multiple imputation should be explored where appropriate (Yang et al., 2024). Intention to treat analysis should be used as primary, and per protocol analysis as a sensitivity analysis.

The statistical analysis plan needs to be pre-registered. The emphasis should be placed on effect sizes, clinically meaningful thresholds and confidence intervals. Always use p values to enhance, not supplant interpretation. For

confirmatory secondary endpoints, multiplicity should be taken into account. Prespecified factors (e.g. baseline severity, age, sensitisation profile) should be used for subgroup analyses.

12. Clinical Research implications

Based on the evidence, it seems that future homeopathy research in allergic rhinitis should follow the same methodological rigor as that required in research on conventional treatments. Randomization, allocation concealment, blinding, prospective registration of the study and full reporting of outcomes and adequate recruitment are required. If a trial does meet the requirements, it can provide useful evidence, regardless of the outcome, either positive or negative or inconclusive.

Comparative, not efficacy, is the priority for antihistamine research. With such a big evidence base, the research question becomes which agents differ clinically from each other for which patient sub-groups and treatment combinations, and whether there is a clinically relevant difference in quality of life and functional impairment (Izmailovich et al., 2023). The 2026 network meta-analysis finds that variation between different individuals may be small and certainty is not high, suggesting a need for further focused studies.

Treatment recommendations for health systems should take into account efficacy, safety, cost, access and patient preference. These factors can be combined, as in the ARIA-EAACI guideline framework. Comparative trials with economic and patient-reported outcomes can, therefore, provide more useful evidence to inform real-world decision making than symptom-only trials.

13. Limitations

It is an article based on secondary evidence and is not a new clinical trial or formal quantitative meta-analysis of homeopathy versus antihistamines. Interventions, comparators and populations vary among the evidence sources included. The direct numerical comparisons should therefore be taken with a pinch of salt.

The literature-year limitation from 2023 onwards enhances the recency of the evidence but limits the older evidence that could include relevant historical randomized trials (Schober et al., 2022). The restriction was instituted with purpose to satisfy the requirement and not as an exhaustive historical survey of the field.

The recent 2026 trial under-recruiting dominates the homeopathy evidence. The antihistamine evidence is much more extensive, but is constituted by a diverse range of drugs, doses, and populations. The conclusions for fine-grained comparisons between individual antihistamines remain uncertain due to the low or very low certainty of the possible benefits and harms reported for several comparisons.

The figures included in the article are descriptive (Kourosh et al., 2024). If values are obtained from a primary study, this will be indicated. The conceptual figures are only meant to be a label and should not be viewed as newly calculated clinical effects. No fabricated clinical observations have been added.

14. Concluding Remarks

The integration of sustainably sourced natural resources into allergic rhinitis management represents a potential area for further investigation, particularly where botanical materials can be obtained through traceable, environmentally responsible and appropriately controlled supply chains. In the context of homeopathic interventions such as *Galphimia glauca*, future research should consider not only clinical outcomes but also the sustainability of raw-material sourcing, biodiversity conservation, resource consumption, processing requirements, packaging and waste generation. However, the present evidence synthesis does not provide sufficient quantitative environmental data to conclude that homeopathic interventions have a lower environmental impact than conventional oral H1-antihistamines. Such conclusions require standardized life-cycle assessment and product-specific environmental data.

Future research should therefore adopt an interdisciplinary approach combining clinical research with environmental and resource-sustainability assessment. Studies should document the botanical origin and traceability of homeopathic ingredients, harvesting or cultivation practices, batch standardisation, water and energy requirements, transportation, packaging and disposal. Particular attention should be given to sustainable sourcing practices that protect biodiversity and avoid overharvesting of medicinal plant resources. Comparative life-cycle assessments could subsequently evaluate homeopathic preparations and conventional antihistamines using consistent system boundaries and measurable indicators.

Further investigation should also examine how sustainable sourcing can be integrated with high-quality clinical research. Future multicentre randomized trials could incorporate environmental data collection alongside TNSS, RQLQ, rescue-medication use and adverse-event monitoring. This would enable researchers to evaluate clinical outcomes and resource implications within the same research framework. The manuscript's proposed future research model already emphasises adequately powered comparative trials, standardized interventions and harmonised clinical outcomes; ecological sustainability could be incorporated as an additional exploratory dimension.

Ultimately, future research should move beyond simply asking whether a homeopathic preparation produces a clinical response and investigate how its ingredients are sourced, how resources are consumed during production, how biodiversity is affected, and whether sustainable production practices can be demonstrated without compromising quality and research integrity. This would provide a broader evidence base for evaluating the potential role of natural-resource-based interventions within environmentally responsible approaches to allergic rhinitis management.

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