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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/23890

DOI URL: <http://dx.doi.org/10.21474/IJAR01/23890>



RESEARCH ARTICLE

HOMOEOPATHIC INTERVENTIONS FOR THE MANAGEMENT OF MYOPIA AMONG YOUNG ADULTS AGED 18–30 YEARS: A SYSTEMATIC REVIEW

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Manuscript Info

Manuscript History

Received: 16 May 2026

Final Accepted: 18 June 2026

Published: July 2026

Key words:-

Myopia; Young Adults; Homoeopathy;
Systematic Review; PRISMA;
Refractive error; Evidence synthesis

Abstract

Background: Myopia may continue to worsen during early adulthood. However, compared to the pediatric literature, the adult literature is scarce. Evidence of homoeopathic treatment for suggestive adult refractive and accommodative disorders is lacking. Purpose: To assess the effectiveness and safety of homoeopathic treatment for adult myopia aged 18 to 30. Methods: This review was conducted according to PRISMA 2020. Twenty to twenty-five, three to five years, published and unpublished literature focused on homoeopathy and myopia for the age group of 18 to 30 within the time duration of 2020 to 2025, was searched and studied. STI: Twenty-seven records were included, of which two were duplicates. Twenty-five records were screened and assessed. Of the remaining reports, three full-length texts were studied. No reports were found that were eligible for the study. The reports which were the closest, focused on participants aged 7 to 30 years, and participants aged 8 to 16 years. Risk of bias study was not possible. Evidence quality was not attainable. Conclusion: For the referenced age group, there is no study focused on homoeopathy that provides evidence to support the treatment of myopia and refractive disorders. Because of this, homoeopathic treatment cannot be suggested. Contact lenses and optometric treatment should be retained.

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Introduction:-

When the eye is in a relaxed state and parallel rays of light are directed at an eye affected by myopia, those rays converge in front of the retina. Myopia is conventionally viewed as being associated with an increase in the eye's axial length. However, myopia can originate from an increase in the eye's corneal or lenticular power. The optometric community regards uncorrected myopia to be an unacceptably low score of distance visual acuity. Additionally, the level of myopia is associated with an increased risk of developing myopic maculopathy, retinal

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detachment, glaucoma, and cataracts. As a result of the identified related risks and concerns, myopia is no longer regarded as an optical nuisance, but is now recognized as a significant public health concern (Baird et al., 2020; Sankaridurg et al., 2021).

The 18-30 age range captures an important population segment from a methodological standpoint. Myopia is a disorder that manifests in childhood and is relatively stable in late adolescence; however, the stabilization of myopia can and does vary. According to the International Myopia Institute, in some populations, myopia can continue to progress in a clinically significant manner in early adulthood to the extent that there is an average change in refractive error of 1.00 diopter between the ages of 20-30 years. Relative to children, the changes in refraction in late adulthood is more variable and less predictable; however, sustained near work, higher levels of myopia, and the population of college students, can result in faster changes in the refractive error of that adult population (Bullimore et al., 2023).

Evidence-based management differentiates between correction and control. Vision aids enhance performance but do not impact the biological progression of myopia. There is an extensive evidence base in myopic children for optical, pharmacological, and behavioral approaches. This includes specially designed spectacles, multifocal rigid gas-permeable contact lenses, orthokeratology, low-dose atropine, and increased outdoor activity. There is a lack of data for adult myopia due to differences in ocular growth. There is also a dearth of large-scale studies for myopic adults (Bullimore&Richdale, 2020; Jonas et al., 2021; Lawrenson et al., 2023; Morgan et al., 2021; Németh et al., 2021; SOE Myopia Consensus Group, 2024).

Homoeopathy, in some studies, individualizes the remedy based on the patient's symptoms. Other studies, based on clinical observations, have suggested the use of *Ruta graveolens* or *Physostigma* for eye strain and myopia. Subjective improvements in asthenopia are not measurable changes in objective findings. Effects seen in uncontrolled studies are likely due to subjective improvement in measurement, natural changes in progression, or due to changes in refraction or other interventions. Reviews on homoeopathy are often contradictory, report adverse effects poorly, and therefore a disease-specific review is warranted (Hamre et al., 2023; Stub et al., 2022).

No focused synthesis was found wherein the target population consisted of young adults aged 18–30 years with objective myopia, nor were any found where myopia was the outcome of interest. For this reason, this review asked the following research question: What is the evidence about the effectiveness and safety of myopia treatment using homoeopathic interventions in young adults aged between 18 and 30 years? This review did not aim to assess the intervention's effectiveness based on theoretical arguments or evidence from other diseases, but rather to identify the existence of relevant clinical evidence and determine the defensibility of cross-study quantitative synthesis.

Methods:-

Protocol and reporting standard

Review protocols were established in advance of study selection but were not registered in PROSPERO. The reporting conformed to the PRISMA 2020 statement and the search documentation extensions of PRISMA-S (Page et al., 2021; Rethlefsen et al., 2021). The last search was completed on 1 August 2026 and eligibility was limited to documentation dated between 1 January 2020 and 31 December 2025. Due to some search portals documenting non-precise total-hit counts, the PRISMA identification numbers pertained to records documented from the searches, as opposed to headline counts generated from broad search web portals.

Review Question and Eligibility:

The target population consisted of adults between 18 and 30 years diagnosed with myopia. Interventions were individualized, constitutional, clinical, complex, or standardized homoeopathic products. Comparators included placebo, no treatment, standard eye care, optical correction, a behavioral approach, a different intervention, or an unambiguous pre-treatment period. Outcomes of interest included cycloplegic and/or manifest spherical equivalent, the rate of myopia progression, axial length, uncorrected and/or best-corrected visual acuity, accommodative symptoms, asthenopia, headache, the level of dependence on corrective lenses, vision-related quality of life, and adverse events. A broad spectrum of studies was eligible including various types of RCTs, as long as the 18-30 years-old data were available in full-text and were extractable.

The main exclusions were non-myopia related conditions, studies with only a pediatric population, studies with a mixed-age population with no extractable data for young-adults, studies involving a lab or animals, editorials, narrative reviews, promotional websites, conference abstracts lacking adequate methodology, duplicate reports, and

reports that described unverifiable methods or outcomes. Case reports could only contribute to a separate narrative description and were not eligible for the meta-analysis.

Table 1. PICO Framework and Eligibility Criteria

Element	Operational definition
Population	Adults aged 18–30 years with clinically diagnosed myopia; mixed-age studies only if young-adult data were separately extractable.
Intervention	Individualized, constitutional, clinical, complex or standardized homoeopathic intervention.
Comparator	Placebo, no treatment, usual care, optical correction, behavioral advice, another intervention or defined pre-treatment measurements.
Outcomes	Spherical equivalent, axial length, progression rate, visual acuity, asthenopia, accommodative symptoms, headache, corrective-lens dependence, quality of life and adverse events.
Study designs	Controlled or uncontrolled clinical studies with identifiable methods and outcome data; case reports retained only for narrative mapping.
Date/language	Full-text English-language publications dated 2020–2025.

Information sources and search strategy:

A wide range of databases were searched including PubMed/MEDLINE, Cochrane CENTRAL, ClinicalTrials.gov, WHO trial-search services, AYUSH and CCRH portals, and others. Citations and forwards of relevant papers were accessed. The 17 researcher-supplied papers were considered as a part of hand-searching, and were screened under the same criteria. They were mostly about warts, psychosomatic illness, alopecia, thyroid problems, emotional suppression, dengue, molluscum contagiosum, and prophylactic care. Most of these were excluded by title/abstract screening.

The blocks of the main ideas were myopia, homoeopathy, and young adult. Variants of these words were also used. While searching in PubMed, the words were also searched in the confined 2020–2025-time frame. While searching in Google Scholar and other portals, shorter searches were used due to the lack of support for advanced Boolean searching. Results were exported to a screening log and duplicates were removed by title, author, DOI, and study, which were then screened in order.

Table 2. Database Search Strategies and Retained Records

Source	Search syntax/approach	Records retained for screening
PubMed/MEDLINE	(myopia OR short-sightedness OR refractive error) AND (homeopathy OR homoeopathy) AND 2020:2025	0
Cochrane CENTRAL	myopia AND (homeopathy OR homoeopathy)	1
ClinicalTrials.gov	Condition: myopia; Other terms: homeopathy OR homoeopathy	0
WHO trial-search resources	myopia AND homeopathy/homoeopathy	0
AYUSH/CCRH and institutional portals	myopia, Timira, homoeopathy, homeopathy; date-filtered where available	2
Google Scholar/targeted web search	Core Boolean string plus exact-title, DOI and citation-chain searches	5

Source	Search syntax/approach	Records retained for screening
Other sources	17 researcher-supplied records plus 2 citation-chain records	19
Total	Before deduplication	27

Selection, extraction and planned analysis:

One reviewer assessed titles and abstracts and reviewed full texts using a structured form. For included studies, data fields were planned for author, country, setting, design, sample size, age, sex, myopia level, diagnostic criteria, intervention, potency, dose, duration, comparator, follow-up, outcome definitions, results, attrition, adverse events, and declaration of funding and interests. It was planned that randomized trials would be assessed with RoB 2, non-randomized intervention studies with ROBINS-I, and observational studies with Joanna Briggs Institute tools. No judgment of risk of bias would be given if studies did not meet inclusion criteria.

A random-effects meta-analysis was planned if at least two studies reported clinically similar populations, interventions, and follow-ups that were also similar, and had extractable data for the same outcomes. For outcomes measured on the same scale, mean differences would be computed, for conceptually similar but different outcome scales, standardized mean differences would be calculated, and for all other outcomes measured using a two-by-two table, risk ratios would be computed. Certainty of the evidence would be assessed with GRADE. If meta-analysis was not possible, it was planned that a structured narrative synthesis and evidence-status map would be conducted.

Results:-

Study Selection

Records of 27 searches were found. We excluded duplicate/double records, resulting in 25 records for screening. At the title and abstract screening, records were primarily excluded for addressing non-myopia conditions, non-original discussion, or Ayurveda instead of homoeopathy. Four records were looked for; one Physostigma 30 report could not be found as a published, peer-reviewed, full text. Three reports were looked at in full, or found in an identifiable record, journal. However, none fulfilled the eligibility requirements, thus the syntheses, qualitative and quantitative, were constructed around inexistent studies.

Figure 1. PRISMA 2020 Study-Selection Flow Diagram (Editable)

PRISMA phase	Flow
IDENTIFICATION	Database/register records: 8 Other-source records: 19 Total records identified: 27
DEDUPLICATION	Duplicate or duplicate-study records removed: 2 Records remaining: 25
SCREENING	Titles/abstracts screened: 25 Records excluded: 21
ELIGIBILITY	Reports sought: 4 Reports not retrieved/verified: 1 Full-text reports assessed: 3 Full-text reports excluded: 3
INCLUDED	Studies included in qualitative synthesis: 0 Studies included in quantitative synthesis: 0

Full-text assessment and evidence characteristics:

An open-label, longitudinal study included 40 participants between the ages of 7-30. These participants were given individualized homeopathic medicine for a length of 6 months. Because the abstract did not include a concurrent

comparator, the publication only described statistically significant changes in the spherical equivalent for the entire sample. No data were described for the 18-30 age subgroup. The study was cited in 2026 even though it was published in a 2025 volume. Because the study did not satisfy the age or publication requirements, it was also excluded from the review (Chatterjee et al., 2026).

The only study on *Ruta graveolens* was found in an online publisher's catalog. The publication and its PDF originated from 2017 and described a study with 11 participants aged 8-16. Therefore, the publication also fell outside the age and publication restrictions. The study cited in this publication described a very small sample size, did not employ a control, and did not measure axial length (Sathye, 2017). A 2021 publication, "Myopia and Homoeopathy," was a review with no original study and no eligible clinical data (Chakarvorti, 2021). The *Physostigma* report was also excluded, as the posting of a summary or a review cannot replace an untimed, methodologically assessable primary study.

Table 3. Full-Text Candidate Reports and Exclusion Reasons

Candidate report	Design/population	Decision and reason
Chatterjee et al., "Usefulness of homoeopathic medicines in controlling myopia"	Prospective open-label; 40 participants aged 7–30 years; six months	Excluded: 18–30-year results not separately extractable; no comparator; publication timing indexed online in 2026.
Sathye, "Effect of Homoeopathic <i>Ruta graveolens</i> ..."	Retrospective uncontrolled report; 11 participants aged 8–16 years	Excluded: pediatric population and underlying 2017 publication, despite later publisher posting metadata.
"Myopia and Homoeopathy"	Narrative/educational article	Excluded: no original participant-level intervention data.
"Effectiveness of <i>Physostigma</i> 30 ..."	Secondary web summary of an alleged study	Report not retrieved/verified as a peer-reviewed full text.

Risk of bias, synthesis and certainty:

Because no report passed eligibility, formal RoB 2, ROBINS-I or Joanna Briggs Institute appraisal was not applicable. Performing those assessments on excluded studies would risk implying that they contributed evidence to the review question. Likewise, no effect estimate, study weight, confidence interval, heterogeneity statistic or pooled result could be calculated. A conventional forest plot would therefore be scientifically misleading. Figure 2 presents an editable evidence-status map showing why the near-eligible reports could not enter quantitative synthesis.

Figure 2. Evidence-Status Map Replacing an Invalid Forest Plot (Editable)

Report	Age applicability	Design/data applicability	Meta-analysis status
Chatterjee et al.	Mixed 7–30; subgroup unavailable	Uncontrolled; insufficient subgroup statistics	Not pollable
Sathye (<i>Ruta</i>)	8–16 only	Uncontrolled retrospective; 2017	Not eligible
Myopia and Homoeopathy	Not reported	No original dataset	Not eligible
<i>Physostigma</i> 30 summary	Unverified	Full methods/data unavailable	Not assessable

Table 4. Risk-of-Bias Assessment Status

Planned tool	Eligible design	Application in this review
RoB 2	Randomized controlled trials	Not applied: no eligible randomized trial.
ROBINS-I	Non-randomized intervention studies	Not applied: no eligible study with separable 18–30-year data.
JBI checklists	Observational studies/case reports	Not applied to excluded reports; no eligible narrative evidence.

Table 5. Summary of Outcomes and Effect Estimates

Outcome	Eligible studies/participants	Effect estimate	Interpretation
Spherical equivalent / progression rate	0 / 0	Not estimable	No directly applicable evidence.
Axial length	0 / 0	Not estimable	No directly applicable evidence.
Visual acuity	0 / 0	Not estimable	No directly applicable evidence.
Asthenopia, accommodation or headache	0 / 0	Not estimable	No directly applicable evidence.
Quality of life	0 / 0	Not estimable	No directly applicable evidence.
Adverse events	0 / 0	Not estimable	Safety for this indication and age group remains undetermined.

Table 6. GRADE Summary of Findings

Critical outcome	Certainty rating	Reason
Change in spherical equivalent	Not rateable	No eligible comparative evidence.
Change in axial length	Not rateable	No eligible evidence.
Visual function and symptoms	Not rateable	No eligible evidence.
Adverse events	Not rateable	No eligible evidence and inadequate indication-specific safety reporting.

DISCUSSION:-

There are no studies included in this review from which the safety or the efficacy of treating adult myopic patients using homeopathy can be determined. The conclusion is the lack of relevant evidence, not the assumption that efficacy is unlikely, or that the treatment is comparable to placebo or standard treatment. It is important to make this distinction. The estimation of the treatment effect is only possible when the Participants, Intervention, Outcome, and Comparison are defined and clearly stated. The available studies mainly failed to meet the required population, study design, date of publication or availability.

Young adult myopia is clinically relevant to the evidence gap because myopia in young adults is not necessarily a stable condition. Myopia in young adults can be of a progressive nature and, in the young adult population, the progression can continue in the university years and even in the young adult's third decade. The British College of Optometrists strongly suggests that research in this age group should be of a longer duration to help distinguish the effects of myopia treatment from the natural progression of myopia. For example, an uncontrolled study lasting six

months is susceptible to many uncontrolled variables, such as the effects of prescription changes and the natural variation of myopic refraction.

Outcome selection is another important consideration. If accommodative symptoms are a central consideration for a given therapeutic intervention, then spherical equivalent should ideally be measured with a standardized protocol, and under cycloplegia. It is important to objectively measure phenomena with respect to their anatomy, therefore, axial length should be measured along with refractive measurements. Visual acuity, in the absence of refractive error, will often be of a good standard in uncomplicated myopia and is therefore, in and of itself, an insensitive measure of myopia progression. It is also important to note that the uncorrected visual acuity may improve or fluctuate, even in the absence of refractive error. Measures of eye strain, headache and quality of life are all important secondary outcomes, however, they must be considered in a context where they would not support or evidence a return to refractive error.

The omitted Ruta reports are illustrative of concerns in respect to causal inference. Children were the only participants, the samples were small, controls were concurrent and absent, and the authors compared the historical progression of myopia in relation to the progression of myopia during their intervention, which was post-treatment. Since myopia progression naturally attenuates with age, these comparisons may present an apparent benefit that is illusory, unless the age-related progression is accounted for and co-interventions are controlled. The authors of the reports relied on subjective measurement of refractive error, and, notably, did not measure axial length. It does not follow from these shortcomings that the intervention was without effect, rather, it does mean that a reliable effect in relation to young adults was not established.

The recent mixed-age open-label study potentially included participants from the target population. Still, results for the 7–30 age range should not be generalized for the 18–30 age range. It is well known that children develop faster than adults and mean change is affected by age composition. Given the lack of follow-up and subgroup sample sizes, means, standard deviations, the young-adult effect and the young-adult standard error cannot be quantitatively assessed. Combining the data with pediatric studies would create clinical heterogeneity, and would violate the study protocol. On a broader level, homoeopathy studies outside of the specific indications of interest should not be used to establish narrow conclusions. A 2023 study of meta-analyses showed that homoeopathy had positive pooled results, though there were disparate indications. Other reviews recognized the lack of evidence for specific indications and the poor quality of the studies (Hamre et al., 2023; National Center for Complementary and Integrative Health, 2024). In spite of the wider controversy, neither side of the debate provides evidence of myopia in the 18 to 30 age group. The correct study unit is the well-designed, relevant, and focused ocular study.

Safety is also questionable. Products that are highly diluted might not pose major direct toxicological concerns. However, products labeled homoeopathic can be inconsistent in composition, and adverse events are frequently documented poorly (Food and Drug Administration, 2025; Stub et al., 2022). The greater concern is the risk that testing is substituted with evidence-based practices, which is likely to result in delayed detection of retinal issues and delayed optical correction. Young adults with high myopia, increasing prescriptions, and sensory changes or loss of vision that is sudden or of a large degree, are in need of immediate and appropriate clinical care of the eye. Homoeopathic care is not to be referred to as a substitute for corrective optical lenses or surveillance of the retina.

Future research should be prospectively registered, use concealed and credible randomization and blinding when possible, include a placebo or usual-care comparison, and specify clinically relevant thresholds. Upon the baseline stratification of age, sex, spherical equivalent, axial length, and the exposure to education and near-work, studies would be more interpretable. Studies should include a 12-month minimum follow-up. Outcomes should include axial length and cycloplegic spherical equivalent, and should be considered co-primary. Reporting should include adverse events, funding, and conflicts of interest, and should utilize inter-eye correlation, attrition, adherence, and rescue treatment reporting, and should be conducted using the intention-to-treat methodology. Incorporating these design elements would allow for a meta-analysis to be conducted, rather than describing yet another study in a narrative format.

Clinical communication must also capture three individual inquiries that are typically conflated: does consultation provide comfort, does the treatment change the refractive status, and does the change endure after the slowing of axial elongation? In a trial, it is possible that a reduction in headache or near-work fatigue is reported without the control of refractive status. It is also possible that a small change in manifest refraction is actually due to a change in accommodation, not a change in structure. Protocols should establish a hierarchy of outcomes, determine the

minimally important difference prior to the beginning of a study, and define the primary time point. Cycloplegic spherical equivalent and axial length should be measured independently. Symptom scales and quality of life measures should be secondary outcomes. Researchers must provide the complete protocol and statistical plan, and an outcome data set with de-identified data, including null results and adverse events. Because reporting data in one eye does not adequately describe the data from a study population, it is better to use one eye of study participants or use a statistical model that includes both eyes when evaluating data that is paired. This is especially important in a field of study where many small, uncritically analyzed studies can be published with little evidence. (Sankaridurg et al., 2023; Wolffsohn et al., 2021) The review clearly shows why an empty systematic review is beneficial. It provides evidence that unsupported numerical synthesizing should not be performed, it shows that a general idea can be narrowed to an evidence gap, and it shows that a general idea can be narrowed into a set of research steps that can be tested. If a set of studies synthesizes is required to produce a numerical value for a study, a forest plot is a poor substitute to a set of studies, a value with synthesized data, and should be replaced with an evidence-status map.

Limitations:-

There are some noteworthy limitations to this review. One is the inconsistent access to the databases. Some databases displayed count numbers that were not stable or were not exportable, so the count only reflected the number of records that were retrievable and close interfaced. For Scopus and Web of Science, we had to rely on general access and Google Scholar, making the search results impossible to exactly reproduce and highly variable. There is always a risk of selection error when screening is done by one reviewer, which was the case for this review. Some non-published and non-English studies may have been screened out due to the 2015-2020 and language restrictions. The strict age requirement of 18-30 was also a barrier to research that may have had some relevant participants and was mixed aged. Lastly, we were unable to assess publication bias or the risk of bias for the studies that were reviewed, as there were no studies to assess. These limitations reduce our confidence that we located every relevant study. Even with these limitations, we do not consider it is just to include unrelated data from mixed aged studies and from children as evidence for the population that was of interest to us.

Conclusion:-

Between 2020 and 2025, no qualifying clinical studies were published that provided separately extractable data concerning the management of myopia among adults aged 18–30 years. As a result, the evidence of benefit, evidence of no benefit, and comparative safety of the said procedure cannot be determined; the appropriate conclusion is insufficient evidence, with the certainty not rateable. Reports concerning children and/or with mixed age groups and without subgroup data cannot offer a young-adult effect estimate and/or an uncontrolled variation in subjective refraction cannot be interpreted as evidence of reduced axial elongation. Consequently, a meta-analysis and a numerical forest plot were not performed. Young adults experiencing myopia should receive the recommended management in the form of corrective spectacles or contact lenses, along with regular optometry or ophthalmology consultations. For the evidence to be adequate, future studies must be pre-registered, sufficiently powered, and conducted in a random, controlled, and blinded manner, and must include cycloplegic spherical equivalents, measurement of axial length, a follow-up duration of a minimum of twelve months, age-specific stratification of data, and the complete reporting of adverse events. In the absence of such studies, homoeopathic means should not be defended claiming that they cure, reverse, or control myopia in the studied age group.

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