

Hypnosis for Fibromyalgia: From Early Meta-Analyses to Contemporary Randomized Evidence — A Narrative Review

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Fibromyalgia, hypnosis, hypnotherapy, self-hypnosis, chronic pain, pain management, sleep, fatigue, quality of life, narrative review.

ABSTRACT

Background: Hypnosis has been investigated as a non-pharmacological intervention for fibromyalgia for several decades. Early systematic reviews and meta-analyses suggested potentially meaningful effects on pain, but the evidence was limited by small sample sizes, substantial heterogeneity, methodological weaknesses, and insufficient assessment of the multidimensional manifestations of fibromyalgia. Since the last fibromyalgia-specific meta-analysis, additional randomized controlled trials have provided new evidence regarding pain and other clinically relevant outcomes.

Objective: To critically review the evolution of evidence on hypnosis for fibromyalgia, contrasting findings from earlier systematic reviews and meta-analyses with contemporary randomized controlled trials and assessing whether more recent evidence has meaningfully changed the clinical interpretation of hypnosis in this condition.

Methods: A structured narrative review was conducted integrating historical evidence from fibromyalgia-specific systematic reviews and meta-analyses with contemporary clinical studies published after the search period of the most recent disease-specific meta-analysis. Particular attention was given to pain intensity and interference, fatigue, sleep, psychological symptoms, fibromyalgia impact, quality of life, durability of treatment effects, treatment delivery, safety, and methodological quality. Evidence from broader chronic musculoskeletal and neuropathic pain populations was considered separately as supportive contextual evidence.

Results: Early meta-analytic evidence demonstrated a significant but heterogeneous analgesic effect of hypnosis/guided imagery, while the certainty of evidence remained low. The 2017 meta-analysis subsequently identified benefits for pain response, mean pain intensity, psychological distress, coping, and sleep, but continued to highlight methodological limitations, imprecision, and heterogeneity. More recent randomized trials have strengthened and broadened this therapeutic signal, reporting improvements in pain intensity and interference, fatigue, sleep quality, anxiety, depression, catastrophizing, fibromyalgia impact, and selected quality-of-life domains. Several benefits persisted during follow-up. Contemporary studies have also demonstrated the feasibility of therapist-delivered, self-administered, and audio-assisted hypnosis. Nevertheless, sample sizes remain modest, populations are predominantly female, intervention protocols are heterogeneous, and optimal treatment dose and delivery remain uncertain.

Conclusions: Contemporary randomized evidence strengthens the earlier signal that hypnosis may provide clinically relevant benefits for fibromyalgia and suggests effects extending beyond analgesia to several interconnected symptom

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domains. However, current evidence remains insufficient to support hypnosis as a stand-alone treatment. Hypnosis may be considered a promising adjunct within individualized, multimodal fibromyalgia management. Larger, adequately powered and methodologically rigorous trials using standardized protocols, clinically meaningful outcomes, systematic safety assessment, and longer follow-up are needed to define its therapeutic role and identify patients most likely to benefit.

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INTRODUCTION

Fibromyalgia (FM) is a chronic disorder characterized by widespread musculoskeletal pain accompanied by a heterogeneous constellation of symptoms, including fatigue, non-restorative sleep, cognitive disturbances, psychological distress, and impaired physical and social functioning. The multidimensional nature of FM, together with the modest efficacy of many pharmacological treatments, has led to increasing interest in non-pharmacological and psychologically based interventions as components of multimodal management. [1,2]

Among these approaches, hypnosis has a long history in the management of pain. Hypnosis involves focused attention, reduced peripheral awareness, and an enhanced capacity to respond to suggestion, potentially modifying sensory, cognitive, and affective dimensions of the pain experience. Guided imagery shares several therapeutic elements with hypnosis and has frequently been investigated alongside hypnotic interventions in FM. These techniques may be particularly relevant to a disorder such as FM, in which pain perception, psychological distress, sleep disturbance, fatigue, and functional impairment are closely interconnected. [3–5]

The first systematic assessment specifically addressing hypnosis and guided imagery in FM was published by Bernardy et al. in 2011. Six controlled trials involving 239 participants were included. Hypnosis/guided imagery significantly reduced pain at the end of treatment, with a large pooled effect size (standardized mean difference [SMD] –1.17, 95% confidence interval [CI] –2.21 to –0.13). However, substantial heterogeneity and important methodological limitations were identified, while available data were insufficient to reliably assess several other clinically relevant FM domains, including fatigue, sleep, depressed mood, and longer-term outcomes. Consequently, the authors considered the evidence promising but insufficient to support firm conclusions regarding efficacy. [4]

In 2017, Zech et al. updated this evidence in a systematic review and meta-analysis of randomized controlled trials (RCTs). Seven RCTs comprising 387 participants contributed to the comparison between guided imagery/hypnosis and control interventions. The analysis suggested clinically relevant benefits for pain response and psychological distress, while additional improvements were observed in mean pain intensity, coping with pain, and sleep. Nevertheless, the certainty of evidence remained low because of methodological limitations, indirectness, imprecision, small study populations, and heterogeneity across interventions. Furthermore, safety was inadequately reported, and the available evidence was derived predominantly from middle-aged women, limiting generalizability. [5]

Importantly, the literature search supporting that meta-analysis extended only through February 2016. Thus, the conclusions that continue to frame the evidence regarding hypnosis in FM largely reflect trials conducted more than a decade ago. Since then, additional randomized studies have investigated contemporary hypnotic approaches, including standardized and self-administered interventions. For example, Aravena et al. evaluated a low-cost, audio-recorded self-hypnosis intervention and demonstrated significant improvements in pain intensity and interference, fatigue, and depressive symptoms compared with a waiting-list control, with several benefits persisting during follow-up. [6]

These subsequent studies raise an important question: has the evidence accumulated since the last disease-specific meta-analysis meaningfully changed our understanding of the therapeutic role of hypnosis in fibromyalgia? A contemporary synthesis is therefore warranted not simply to revisit whether hypnosis may be effective, but to examine how the evidence has evolved, whether newer trials have addressed earlier methodological limitations, and which FM domains appear most responsive to hypnotic interventions. The aim of this narrative review is to critically examine the evolution of evidence regarding hypnosis for fibromyalgia, from the early controlled trials and systematic reviews to contemporary randomized clinical studies published after the last dedicated meta-analysis. Particular attention is given to pain, fatigue, sleep, psychological symptoms, functional impact, health-related quality of life, durability of treatment effects, treatment delivery, and methodological quality. By contrasting historical evidence with more recent clinical trials, this review seeks to clarify the current therapeutic potential, limitations, and future research priorities of hypnosis as part of the multimodal management of fibromyalgia.

METHODS

Review design

This study was designed as a structured narrative review of the clinical evidence regarding hypnosis and related hypnotic interventions for the treatment of fibromyalgia. The review was conceived as an evidence update integrating the findings of previous systematic reviews and meta-analyses with randomized controlled trials published after the search period of the most recent fibromyalgia-specific meta-analysis.

The review was organized into two complementary periods: (1) historical evidence summarized in previous systematic reviews and meta-analyses and (2) contemporary evidence derived from clinical studies published after the literature search of the most recent disease-specific meta-analysis. This approach was selected to determine whether more recent evidence had reinforced, modified, or challenged previous conclusions regarding the efficacy of hypnosis in FM.

Historical evidence

Previous systematic reviews and meta-analyses specifically evaluating hypnosis and/or guided imagery in patients with FM were considered the foundation of the historical evidence. Particular attention was given to the systematic review and meta-analysis by Bernardy et al. and its subsequent update by Zech et al. Information regarding study populations, interventions, comparators, outcomes, effect estimates, methodological quality, and authors' conclusions was extracted from these reviews. [4,5]

Because the literature search of the most recent dedicated systematic review and meta-analysis extended through February 29, 2016, this date was considered the transition point between historical and contemporary evidence. [5]

Search for contemporary evidence

A focused literature search was conducted to identify studies published from March 1, 2016, through January 31, 2026. Electronic searches included MEDLINE/PubMed, Scopus, Web of Science, PsycINFO, and the Cochrane Library.

Search terms combined controlled vocabulary and free-text terms related to fibromyalgia and hypnosis, including combinations of "fibromyalgia," "fibromyalgia syndrome," "hypnosis," "hypnotherapy," "hypnotic intervention," "self-hypnosis," "clinical hypnosis," and "guided imagery." Reference lists of eligible studies and relevant reviews were also screened to identify additional publications.

No language restrictions were applied during the initial search.

Eligibility criteria

For the contemporary evidence update, studies were considered eligible if they: (1) included adults diagnosed with fibromyalgia according to recognized diagnostic or clinical criteria; (2) evaluated hypnosis, hypnotherapy, self-hypnosis, or a hypnosis-based intervention as a principal therapeutic component; (3) used a randomized controlled or controlled clinical design; (4) included a comparator such as usual care, waiting list, attention control, sham intervention, another psychological intervention, or another active treatment; and (5) reported at least one clinically relevant FM outcome.

Studies evaluating only a single experimental hypnosis session without a therapeutic intervention period were excluded from the primary clinical evidence synthesis. Studies in which hypnosis was not distinguishable from a broader multimodal intervention were also excluded unless the specific contribution of the hypnotic component could be evaluated.

Systematic reviews and meta-analyses published during the contemporary period were used to contextualize the evidence and identify potentially eligible primary studies but were analyzed separately from individual clinical trials to avoid double counting of evidence.

Outcomes

The principal outcome of interest was pain, including pain intensity, pain interference, clinically meaningful pain response, and pain-related coping. Secondary outcomes included fatigue, sleep quality or sleep disturbance, depressive and anxiety symptoms, psychological distress, physical function or disability, Fibromyalgia Impact Questionnaire/Fibromyalgia Impact Questionnaire-Revised scores, health-related quality of life, satisfaction or well-being, treatment acceptability, adverse events, and persistence of therapeutic effects during follow-up.

Where available, information regarding hypnotic delivery was also collected, including therapist-administered versus self-administered hypnosis, individual versus group treatment, use of audio-recorded interventions, number and duration of sessions, home practice, type of hypnotic suggestion, and concomitant treatments.

Data extraction and synthesis

For each eligible study, the following information was extracted: author and year of publication, country, study design, sample size, participant characteristics, diagnostic criteria for FM, characteristics and duration of the hypnotic intervention, comparator, concomitant treatment, outcome measures, follow-up duration, principal efficacy findings, adverse events, and major methodological limitations.

Because substantial clinical and methodological heterogeneity was observed across studies regarding hypnotic technique, treatment intensity, comparator groups, outcome definitions, and follow-up duration, the evidence was synthesized narratively rather than quantitatively pooled.

The findings were presented chronologically and thematically. Historical evidence summarized by previous meta-analyses first established the evidence base available through February 2016. Subsequently published trials were then examined to determine whether contemporary evidence confirmed, extended, or modified these earlier conclusions.

Particular emphasis was placed on changes over time in study quality, sample size, intervention standardization, outcome selection, follow-up, and modes of hypnosis delivery. The interpretation distinguished statistical significance from clinical relevance and considered the consistency, magnitude, durability, and methodological robustness of reported treatment effects.

Presentation of evidence

The principal characteristics and findings of the included studies were summarized in a structured table. Previous systematic reviews and meta-analyses were clearly distinguished from newly identified clinical trials to allow direct visualization of the transition from historical to contemporary evidence.

The narrative synthesis was organized around three central questions: (1) What did the early evidence suggest regarding hypnosis for fibromyalgia? (2) What new evidence emerged since the last dedicated meta-analysis? and (3) Has contemporary evidence meaningfully changed the strength or clinical interpretation of the evidence supporting hypnosis in fibromyalgia?

RESULTS

Overview of the evidence

The evidence identified for hypnosis in fibromyalgia shows a clear chronological evolution from small and methodologically heterogeneous controlled trials to more recent randomized studies using standardized interventions, multidimensional outcome assessment, and longer follow-up. The evidence base examined in the present review comprised two fibromyalgia-specific systematic reviews and meta-analyses, one broader systematic review and meta-analysis of hypnosis for chronic musculoskeletal and neuropathic pain, one contemporary narrative review focused on fibromyalgia, and three more recent randomized controlled trials specifically evaluating hypnosis in patients with fibromyalgia. [4–10]

The earlier literature primarily focused on pain intensity and was characterized by small samples, heterogeneous hypnotic techniques, variable comparators, and limited assessment of clinically relevant fibromyalgia domains. More recent studies increasingly evaluated fatigue, sleep, psychological symptoms, disease impact, and quality of life in addition to pain, while also incorporating self-hypnosis and structured follow-up.

Early evidence and the 2011 meta-analysis

The first disease-specific quantitative synthesis was published by Bernardy et al. in 2011. Six controlled trials involving 239 participants were included. Across the included studies, patients received a median of nine hypnosis or guided imagery sessions, although intervention format, duration, hypnotic technique, and comparator varied considerably. [4]

The pooled analysis demonstrated a statistically significant reduction in pain at the end of treatment, with a large standardized mean difference of -1.17 (95% CI -2.21 to -0.13 ; $p=0.03$). However, heterogeneity was substantial ($I^2=88\%$; $\tau^2=1.45$). By contrast, health-related quality of life was not significantly improved (SMD -0.90 , 95% CI -2.55 to 0.76 ; $p=0.29$; $I^2=91\%$). Data for fatigue, sleep, and depressed mood were too sparse to permit reliable pooled estimates. [4]

The apparent analgesic effect was also sensitive to methodological assumptions. When two studies requiring calculated values were removed, the pooled pain effect was no longer statistically significant (SMD -1.38 , 95% CI -2.95 to 0.20 ; $I^2=92\%$; $p=0.09$). [4] Methodological quality was variable. The median methodological quality score was 16, with one study classified as poor quality, four as medium quality, and one as excellent. No included trial reported adverse effects. These findings established an early signal of analgesic efficacy but also highlighted substantial uncertainty regarding reproducibility, treatment standardization, and effects on non-pain domains. [4]

The 2017 systematic review and meta-analysis: refinement of the evidence

Zech et al. subsequently updated the evidence base, searching the literature through February 2016. Seven randomized controlled trials involving 387 participants contributed to the principal comparison of guided imagery/hypnosis versus control interventions. The review expanded the scope of outcome assessment to include responder-based pain outcomes, psychological distress, disability, fatigue, sleep, quality of life, treatment acceptability, and safety. [5]

At the end of treatment, guided imagery/hypnosis was associated with a significant improvement in pain response. In Table 2 of the review, $\geq 50\%$ pain relief was reported in six studies involving 299 participants, yielding a risk difference of 0.24 (95% CI 0.06 – 0.42 ; $p=0.008$; $I^2=80\%$). Mean pain intensity was also significantly reduced (SMD -1.12 , 95% CI -1.97 to -0.28 ; $p=0.009$; $I^2=91\%$). Improvements were additionally observed for $\geq 30\%$ pain relief (RD 0.25 , 95% CI 0.01 – 0.50 ; $p=0.02$), coping with pain (SMD -0.32 , 95% CI -0.59 to -0.05 ; $p=0.02$), and sleep problems (SMD -0.91 , 95% CI -1.51 to -0.11 ; $p=0.02$). [5]

Psychological distress also improved significantly (SMD -0.40 , 95% CI -0.70 to -0.11 ; $p=0.008$; $I^2=0\%$). Fatigue showed a borderline effect (SMD -0.46 , 95% CI -0.91 to 0.00 ; $p=0.05$), whereas mean health-related quality of life did not significantly improve. Acceptability did not differ significantly between hypnosis/guided imagery and control interventions. [5]

Two additional trials involving 95 participants examined hypnosis combined with cognitive-behavioral therapy versus CBT alone. Combined treatment produced greater improvement in psychological distress (SMD -0.50 , 95% CI -0.91 to -0.09), but no significant advantages were observed for most other primary outcomes. [5]

Importantly, the quality of evidence remained low. Five studies were considered low quality and four moderate quality, and the certainty of evidence was downgraded because of study limitations, indirectness, and imprecision. Furthermore, the population was predominantly composed of middle-aged women, thereby limiting generalizability. No study provided adequate safety data. [5]

Contemporary randomized evidence after the last fibromyalgia-specific meta-analysis

Aravena et al.

Aravena et al. evaluated a self-administered, audio-recorded hypnotic intervention in a randomized controlled trial involving 97 adults with fibromyalgia. Participants continued their standard pharmacological treatment and usual physical or psychological activities. The experimental group received an initial audio-recorded hypnotic intervention followed by a second recording for daily home practice over one month. [6]

At post-treatment, significant between-group differences favored hypnosis for multiple outcomes. Pain intensity was lower in the experimental group than in controls (4.75 ± 1.54 vs 5.92 ± 1.43 ; Cohen's $d=0.79$; $p<0.001$), as was pain interference (5.34 ± 2.06 vs 6.96 ± 1.55 ; $d=0.89$; $p<0.001$). Fatigue intensity improved with a large effect (5.65 ± 1.73 vs 7.22 ± 1.75 ; $d=0.90$; $p<0.001$), as did fatigue interference (5.40 ± 2.15 vs 6.92 ± 1.76 ; $d=0.77$; $p<0.001$). Depressive symptoms also improved (46.60 ± 11.18 vs 53.12 ± 10.20 ; $d=0.61$; $p=0.003$). In contrast, satisfaction with life did not differ between groups ($d=0.00$; $p=0.961$). [6]

Follow-up analyses indicated that improvements in pain, fatigue, and depressive symptoms were largely maintained, although fatigue interference showed some deterioration from the immediate post-treatment assessment while remaining improved relative to baseline. [6]

This trial was clinically relevant because it demonstrated that an inexpensive, self-administered intervention could produce moderate-to-large effects across several fibromyalgia domains. Nevertheless, the use of a waiting-list rather than attention-matched control limits the ability to isolate the specific hypnotic effect from expectancy and therapeutic-contact effects. [6]

Özgunay et al.

A more recent prospective randomized controlled study by Özgunay et al. evaluated standardized adjunctive hypnosis in 47 women with fibromyalgia. Twenty-four participants received three standardized hypnosis sessions and were trained in self-hypnosis, which they continued for six months, while 23 control participants continued medical treatment without the hypnosis program. [9]

The hypnosis group demonstrated significantly greater improvement from baseline to six months across multiple domains. Median change in pain intensity was -3 in the hypnosis group compared with 0 in controls ($p=0.001$). FIQ scores improved by -15.60 versus -2.05 ($p=0.002$), Beck Depression Inventory scores by -8 versus -3 ($p=0.043$), and Beck Anxiety Inventory scores by -7 versus -1 ($p=0.001$). [9]

Significant between-group differences also favored hypnosis for Nottingham Health Profile domains, including pain ($p<0.001$), physical activity ($p=0.007$), fatigue ($p=0.010$), sleep ($p=0.003$), emotional reaction ($p=0.018$), social isolation ($p=0.006$), and total NHP score ($p<0.001$). [9]

The study therefore extended the earlier evidence beyond analgesia by demonstrating simultaneous improvement in fibromyalgia impact, mood, sleep, fatigue, physical activity, and broader health status over a six-month period. However, its relatively small and exclusively female sample and the absence of an attention-matched control remain relevant limitations. [9]

Dorta et al.

Dorta et al. provided one of the most methodologically rigorous contemporary trials. Fifty participants with fibromyalgia and moderate-to-severe chronic pain were randomized, with 49 completing the study: 24 in the hypnosis group and 25 in the control group. Participants received eight weekly one-hour sessions. The hypnosis intervention consisted of hypnotic induction followed by standardized analgesic suggestions, whereas the control condition consisted of casual, unscripted conversation delivered by the same hypnotherapist in the same environment. The study therefore attempted to control for therapist attention, interpersonal contact, and contextual effects. [10]

Pain intensity was the primary outcome, while secondary outcomes included sensory and affective pain dimensions, pain unpleasantness, catastrophizing, anxiety, depression, sleep quality, fibromyalgia impact, and quality of life. [10]

Hypnosis significantly reduced pain intensity at both post-intervention and three-month follow-up, and significant improvements were also observed in sensory and affective pain ratings, pain unpleasantness, and catastrophizing. These analgesic benefits persisted for at least three months following the final hypnosis session. [10]

Substantial improvements were also observed in non-pain outcomes. Anxiety scores decreased from 8.2 ± 2.1 at baseline to 4.8 ± 2.6 post-intervention and 5.0 ± 2.5 at follow-up. Depression scores decreased from 4.0 ± 1.8 to 2.4 ± 1.3 and 2.4 ± 1.1 , respectively. Sleep quality improved markedly, with PSQI scores decreasing from 17.0 ± 3.4 to 9.6 ± 2.5 post-intervention and 9.7 ± 2.7 at follow-up. Fibromyalgia impact decreased from 80.1 ± 4.8 at baseline to 60.1 ± 4.5 post-treatment and 61.2 ± 4.8 at follow-up. [10]

Quality-of-life improvements were observed in physical health, psychological health, and global self-evaluation, whereas social relationships and environmental domains were not significantly altered. [10]

No adverse events attributable to hypnosis were reported. The major limitations included the impossibility of participant blinding, absence of objective monitoring of home self-hypnosis frequency, minor scheduling deviations, and the predominance of women in the sample. [10]

Evidence from broader chronic pain populations [10]

Langlois et al. performed a systematic review and meta-analysis of hypnosis for chronic musculoskeletal and neuropathic pain. Nine randomized trials involving 530 participants were included. This analysis was not specific to fibromyalgia and therefore provides supportive rather than disease-specific evidence. [10]

Hypnosis produced a moderate reduction in pain intensity immediately after treatment (Hedges' $g = -0.42$; $p = 0.025$) and at short-term follow-up ($g = -0.37$; $p = 0.027$). Pain interference was also reduced ($g = -0.39$; $p = 0.029$). Importantly, a dose-response signal was identified: interventions involving at least eight hypnosis sessions produced a significant moderate effect ($g = -0.555$; $p = 0.034$), whereas interventions with fewer than eight sessions yielded a smaller, nonsignificant effect ($g = -0.299$; $p = 0.19$). [10]

However, direct extrapolation to fibromyalgia should be cautious. The meta-analysis included heterogeneous pain conditions, and one mixed-population study included only five participants with fibromyalgia. Thus, the main value of this meta-analysis for the present review is its support for the broader analgesic effect of hypnosis and the possible importance of treatment dose.

Contemporary narrative synthesis [7]

De Benedittis published a narrative review in 2023 examining the clinical and mechanistic rationale for hypnosis in fibromyalgia. The review emphasized the distinction between symptom-oriented hypnosis, aimed at reducing pain, fatigue, sleep disturbance, anxiety, and depression, and broader hypnotherapeutic approaches focused on emotional conflicts and trauma-related factors. [7]

The author concluded that most available studies favored hypnosis for pain and other key fibromyalgia symptoms, although effect sizes varied and the literature remained limited by small samples, methodological heterogeneity, and generally low study quality. The review particularly highlighted the results of Aravena et al., including effect sizes of 0.90 for fatigue intensity, 0.79 for pain intensity, and 0.61 for depressive symptoms. [7]

Evolution of the evidence over time [7]

Taken together, the available literature demonstrates a gradual strengthening of the clinical signal supporting hypnosis in fibromyalgia. The earliest evidence suggested a potentially large analgesic effect but was undermined by marked heterogeneity, small sample sizes, limited follow-up, and inadequate assessment of non-pain outcomes. The 2017 meta-analysis confirmed benefits for pain, psychological distress, sleep, and coping, but the certainty of evidence remained low.

The contemporary randomized trials provide several clinically important advances. First, benefits are no longer restricted to pain intensity; consistent improvements have been reported in pain interference, fatigue, anxiety, depression, sleep quality, fibromyalgia impact, catastrophizing, and selected quality-of-life domains. Second, therapeutic effects were maintained beyond the immediate intervention period in several studies. Third, both therapist-delivered hypnosis and self-administered or audio-assisted approaches appear feasible. Finally, the use of an attention-matched control and blinded outcome assessment in the Dorta trial represents a methodological improvement over much of the earlier literature.

Nevertheless, the contemporary evidence remains based on relatively small samples, with a marked predominance of women and substantial variation in hypnosis protocols, number of sessions, home practice, comparators, and outcome measures. Thus, while the more recent studies strengthen the consistency and multidimensional nature of the therapeutic signal, they do not yet eliminate the methodological concerns that limited the certainty of the earlier meta-analytic evidence.

DISCUSSION

The present review indicates that the evidence supporting hypnosis as an adjunctive intervention for fibromyalgia has evolved substantially over the past 15 years. Earlier meta-analytic evidence suggested a potentially meaningful analgesic effect but was constrained by small samples, considerable clinical and statistical heterogeneity, inconsistent outcome assessment, and limited methodological quality. More recent randomized trials have extended this evidence by demonstrating improvements not only in pain intensity but also in fatigue, sleep disturbance, depressive and anxiety symptoms, pain interference, catastrophizing, fibromyalgia impact, and selected quality-of-life domains. Taken together, the contemporary literature suggests that hypnosis may exert a multidimensional therapeutic effect in fibromyalgia, although the certainty of evidence remains insufficient to support its use as a stand-alone treatment or to define an optimal standardized protocol. [4–10]

The historical evidence provides an important context for interpreting the newer trials. Bernardy et al. reported a large pooled effect on pain at the end of treatment, with an SMD of -1.17 , but this estimate was accompanied by substantial heterogeneity and became nonsignificant in sensitivity analysis after exclusion of studies requiring imputed or calculated values. In addition, data for fatigue, sleep, depressed mood, and follow-up were too sparse to permit reliable quantitative synthesis. Thus, the principal contribution of the 2011 meta-analysis was not the establishment of definitive efficacy, but rather the identification of an early analgesic signal that warranted more rigorous investigation. [4]

The 2017 meta-analysis by Zech et al. provided a more refined evaluation of the evidence by incorporating responder-based outcomes, psychological distress, sleep, fatigue, coping, acceptability, and follow-up. Guided imagery/hypnosis was associated with

improved $\geq 50\%$ pain relief, mean pain intensity, psychological distress, coping with pain, and sleep problems at the end of treatment. However, the overall certainty of evidence remained low because of methodological limitations, indirectness, imprecision, and substantial heterogeneity for several outcomes. This distinction is clinically important. The available evidence at that time supported a signal of benefit, but not a high-certainty conclusion regarding efficacy. [5]

The more recent randomized trials provide evidence that is, in several respects, more clinically informative than the early literature. Aravena et al. demonstrated moderate-to-large effects on pain intensity, pain interference, fatigue intensity, fatigue interference, and depressive symptoms using a relatively simple audio-recorded self-hypnosis intervention. The effect sizes were particularly notable for fatigue intensity ($d=0.90$), pain interference ($d=0.89$), pain intensity ($d=0.79$), and depressive symptoms ($d=0.61$). This study is relevant because it suggests that therapeutic benefit may not depend exclusively on repeated face-to-face sessions with a hypnotherapist. A self-administered, audio-assisted model may improve accessibility, scalability, and potentially cost-effectiveness, although adherence and treatment fidelity remain important unresolved issues. [6]

The trial by Özgünay et al. further expanded the outcome spectrum. After six months, patients receiving standardized hypnosis plus self-hypnosis showed significantly greater improvements than controls in pain, FIQ, depressive symptoms, anxiety, fatigue, sleep, physical activity, emotional reaction, social isolation, and global health status. The magnitude and breadth of these findings are noteworthy because fibromyalgia is not adequately represented by pain intensity alone. The syndrome is defined clinically by a cluster of interdependent symptoms, and an intervention that influences several of these domains may have greater clinical relevance than one that produces isolated analgesia. [9]

This multidimensional pattern was reinforced by the Dorta et al. trial. In contrast with many earlier studies, the control condition was designed to account for nonspecific therapeutic factors by using the same hypnotherapist, session duration, environment, and interpersonal attention, while withholding hypnotic induction and suggestions. This represents an important methodological advance because expectancy, therapeutic alliance, and structured attention are potentially powerful confounders in non-pharmacological trials. Despite this more rigorous comparator, hypnosis was associated with persistent improvements in pain intensity, sensory and affective pain dimensions, unpleasantness, catastrophizing, anxiety, depression, sleep quality, FIQ, and selected quality-of-life domains. [10]

The persistence of benefit after treatment discontinuation is particularly relevant. In Dorta et al., improvements in anxiety, depression, sleep, and fibromyalgia impact remained evident at three months. For example, FIQ scores decreased from 80.1 ± 4.8 at baseline to 60.1 ± 4.5 after treatment and remained at 61.2 ± 4.8 at follow-up, while PSQI scores improved from 17.0 ± 3.4 to 9.6 ± 2.5 and remained at 9.7 ± 2.7 . These findings suggest that the clinical benefits of repeated hypnosis may extend beyond transient relaxation; however, the mechanisms underlying their persistence were not directly assessed. [10]

The emerging evidence also suggests that treatment dose may matter. In the broader meta-analysis by Langlois et al., hypnosis significantly reduced chronic musculoskeletal and neuropathic pain intensity after treatment and at short-term follow-up, and reduced pain interference. Importantly, interventions comprising at least eight hypnosis sessions produced a statistically significant moderate effect, whereas interventions with fewer than eight sessions did not. Although these data cannot be directly extrapolated to fibromyalgia because the population was heterogeneous and only a small subset had fibromyalgia, they provide a biologically and clinically plausible framework for interpreting the contemporary FM trials. Notably, Dorta et al. used eight structured sessions and demonstrated persistent multidomain benefit. [7]

This potential dose-response relationship deserves further investigation. The existing fibromyalgia literature varies markedly with regard to the number, frequency, and duration of sessions, hypnotic induction procedures, type of suggestion, use of individualized versus standardized scripts, and incorporation of self-hypnosis. De Benedittis emphasized this heterogeneity and distinguished symptom-oriented hypnosis from broader hypnotherapeutic approaches targeting emotional conflicts and trauma-related processes. At present, however, the available evidence does not allow firm conclusions regarding whether individualized hypnosis is superior to standardized protocols, whether analgesia-specific suggestions outperform more general relaxation or ego-strengthening suggestions, or how much of the therapeutic effect is attributable to home practice. [8]

Pain remains the most consistently improved domain across the literature, but the contemporary evidence suggests that the therapeutic effect of hypnosis may extend beyond nociceptive perception alone. In fibromyalgia, pain is closely linked to fatigue, sleep disturbance, affective symptoms, catastrophizing, functional impairment, and reduced quality of life. The newer trials repeatedly demonstrated improvements across these interconnected domains. In Dorta et al., hypnosis reduced both sensory and affective pain dimensions and pain catastrophizing while simultaneously improving anxiety, depression and sleep. This pattern is compatible with a broader effect on pain processing and symptom interpretation rather than a simple reduction in pain intensity. [6,9,10]

Nevertheless, mechanistic interpretation should remain cautious. Although neurobiological models of hypnosis suggest modulation of brain regions involved in attention, salience, affective appraisal, and pain processing, the clinical studies included in this review were not designed to establish causal neurophysiological mechanisms. Accordingly, the clinical findings should not be overinterpreted as direct evidence that hypnosis reverses central sensitization or modifies the underlying pathophysiology of fibromyalgia. The available evidence supports symptom modulation; it does not establish disease modification.

The distinction between statistical significance and clinical importance is also essential. Earlier meta-analyses frequently reported statistically significant pooled effects in the presence of substantial heterogeneity. For example, the 2017 meta-analysis reported an SMD of -1.12 for mean pain intensity, but heterogeneity reached 91%. Such an estimate should not be interpreted as a uniform treatment effect applicable to all patients. Rather, it likely reflects substantial variability in intervention protocols, comparator conditions, baseline severity, hypnotic susceptibility, treatment expectations, and outcome measurement. [5]

Another consistent limitation is the demographic composition of the study populations. Earlier meta-analytic evidence was dominated by middle-aged women, limiting external validity. More recent trials remain heavily female. Dorta et al. included only one male participant among 49 completers. Özgunay et al. enrolled exclusively women. This is understandable given the epidemiology of clinically diagnosed fibromyalgia, but it limits confidence regarding efficacy in men and reduces the ability to examine sex-related differences in hypnotic responsiveness. [5,9,10]

Sample size remains another major issue. Even the newer RCTs are relatively small. Contemporary methodological improvements therefore do not fully eliminate concerns about imprecision, unstable effect estimates, or publication bias. Larger multicenter trials are needed, particularly those using prospectively registered protocols, concealed allocation, blinded outcome assessment when feasible, intention-to-treat analysis, standardized co-intervention control, and clearly predefined clinically meaningful thresholds. Safety reporting has also historically been inadequate. Bernardy et al. reported that none of the included studies documented side effects. Likewise, Zech et al. noted that no study adequately reported safety. More recent trials have begun to address this gap. Dorta et al. explicitly reported no adverse events attributable to hypnosis. Although this is reassuring, the cumulative sample remains too small to establish a definitive safety profile, especially in patients with severe psychiatric comorbidity, who were frequently excluded from trials. [4,5,10]

The 2023 narrative review by De Benedittis reached broadly favorable conclusions regarding hypnosis for fibromyalgia but also emphasized the persistent limitations of small samples, heterogeneity, and generally poor methodological quality. Unlike the previous narrative review, the present synthesis was specifically structured around the temporal transition from the pre-2016 meta-analytic evidence to contemporary randomized trials, allowing assessment of whether subsequent methodological improvements have materially altered the interpretation of hypnosis efficacy in fibromyalgia. The current review extends that perspective by incorporating the more recent randomized studies and highlighting an important change in the evidence base: newer trials increasingly use structured interventions, longer follow-up, multidimensional outcomes, and more appropriate controls. Therefore, the central question is no longer simply whether hypnosis can reduce fibromyalgia pain, but rather which patients are most likely to benefit, which protocol is most effective, how many sessions are required, and whether improvements can be sustained through self-hypnosis. [8]

From a clinical standpoint, the available evidence supports hypnosis primarily as an adjunctive component of multimodal fibromyalgia management, rather than as a replacement for established non-pharmacological or pharmacological therapies. This interpretation is consistent with the intervention designs of the contemporary trials, in which hypnosis was generally delivered alongside stable medical treatment rather than as monotherapy. The apparent benefits across pain, sleep, mood, fatigue, and disease impact make hypnosis particularly attractive for a condition characterized by multiple interacting symptom domains. [2,6,9,10]

Future research should prioritize several unresolved questions. First, adequately powered multicenter RCTs are required to confirm efficacy using standardized, clinically meaningful outcomes. Second, direct comparisons between therapist-administered hypnosis, structured self-hypnosis, and audio-assisted programs are needed. Third, treatment-dose studies should determine whether the apparent advantage of eight or more sessions is reproduced specifically in fibromyalgia. Fourth, trials should systematically evaluate adherence, hypnotic susceptibility, treatment expectancy, baseline catastrophizing, psychological comorbidity, and other potential predictors of response. Fifth, longer follow-up is necessary to determine whether benefits persist beyond three to six months. Finally, formal cost-effectiveness analyses would be valuable, particularly for digital or audio-based self-hypnosis approaches that could substantially increase accessibility.

The present review also has limitations. It was designed as a structured narrative review rather than a new quantitative meta-analysis, and the available studies were heterogeneous with respect to hypnosis protocols, comparators, outcome measures, and follow-up. In addition, the contemporary literature remains relatively small, and some evidence derives from broader chronic pain populations rather than fibromyalgia exclusively. These limitations preclude precise quantitative estimation of the current overall treatment effect.

Despite these caveats, the direction of the evidence has become more consistent. The early literature demonstrated a promising but methodologically fragile analgesic signal. The 2017 meta-analysis confirmed benefits across several domains but rated the certainty of evidence as low. Contemporary RCTs now provide convergent evidence that hypnosis can improve pain and several non-pain symptoms of fibromyalgia, with some effects persisting for months after treatment. This progression does not yet establish hypnosis as a definitive evidence-based monotherapy for fibromyalgia, but it strengthens the rationale for considering it as a potentially useful adjunct within individualized, multimodal care and provides a clear foundation for larger, methodologically rigorous confirmatory trials. [4–6,9,10]

CONCLUSIONS

The evidence supporting hypnosis for fibromyalgia has become progressively more consistent, although it remains methodologically limited. Earlier meta-analyses identified a potentially meaningful analgesic effect but were constrained by small samples, substantial heterogeneity, incomplete assessment of key fibromyalgia domains, and low certainty of evidence. More recent randomized controlled trials have expanded these findings by showing benefits not only for pain intensity, but also for pain interference, fatigue, sleep disturbance, anxiety, depression, catastrophizing, fibromyalgia impact, and selected dimensions of quality of life. [4–6,9,10] Contemporary studies also suggest that therapeutic effects may persist beyond the immediate treatment period and that both therapist-delivered hypnosis and self-hypnosis or audio-assisted approaches may be feasible. The use of more structured protocols, multidimensional outcome assessment, longer follow-up, and attention-matched controls in newer trials represents an important methodological advance over the earlier literature. [6,9,10]

Nevertheless, the current evidence does not yet justify considering hypnosis a stand-alone treatment for fibromyalgia. Sample sizes remain modest, study populations are predominantly female, hypnosis protocols vary considerably, and the optimal number of sessions, delivery format, patient selection criteria, and long-term durability of benefit remain uncertain. The broader chronic pain literature suggests that treatment dose may be relevant, with greater effects observed after eight or more sessions, but this finding still requires confirmation specifically in fibromyalgia. [5,7,9,10]

Overall, hypnosis should presently be viewed as a promising adjunctive intervention within a multimodal and individualized management strategy for fibromyalgia. The convergence of more recent randomized evidence across multiple symptom domains strengthens the clinical rationale for its use, while also underscoring the need for adequately powered, multicenter, prospectively registered trials using standardized interventions, clinically meaningful outcomes, systematic safety assessment, and longer-term follow-up. Such studies will be essential to determine not only whether hypnosis is effective, but also which patients are most likely to benefit, which therapeutic format is optimal, and how hypnosis can be most effectively integrated into routine fibromyalgia care. [4–10].

DECLARATIONS

Ethics approval and consent to participate

Not applicable. This study is a narrative review of previously published literature and did not involve human participants, human data, or human tissue.

Consent for publication

Not applicable.

Availability of data and materials

All data analyzed in this review are derived from previously published studies cited in the manuscript. No new datasets were generated or analyzed.

Competing interests

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Authors' contributions

All authors contributed to the conception and design of the review, literature assessment, interpretation of the evidence, and critical revision of the manuscript. All authors read and approved the final version of the manuscript.

Artificial Intelligence (AI)–assisted technologies

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) as an artificial intelligence–assisted tool. The manuscript was initially drafted by the authors in Portuguese, and the AI tool was used to assist with English translation, language editing, grammar, readability, and stylistic refinement. The scientific content, interpretation of the literature, conclusions, and final version of the manuscript were critically reviewed and approved by the authors, who take full responsibility for the content of the publication.

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