Research Article

# Effectiveness of Eight-Session Clinical Hypnosis in Reducing Somatic Symptom Severity Among Psychosomatic Patients: A Quasi-Experimental Controlled Study From Godhra, Gujarat

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**Abstract**

**Background:** Medically unexplained somatic complaints such as stomach pain, headache and chest tightness with normal investigation reports are very common in primary care in India, with an estimated 30–40% of primary care patients affected. Psychological services remain very limited in the Godhra region of Gujarat, and hypnosis may be useful as a primary or supportive treatment for such psychosomatic patients.

**Objective:** To examine whether clinical hypnosis reduces somatic symptom severity among psychosomatic patients and whether it can work as a primary or supportive treatment.

**Methods:** A quasi-experimental pre-test post-test control group study was conducted among 300 patients from Godhra city and nearby villages within 10 km, with data collected from January 2024 to January 2025. The experimental group (n = 150) received eight sessions of clinical hypnosis, twice a week for four weeks, along with routine medical treatment; the control group (n = 150) received routine treatment only. Somatic symptom severity was assessed with the PHQ-15 before and after the intervention. Paired and independent t-tests and Cohen's d were used for analysis, with $p < 0.05$ considered statistically significant.

**Results:** Internal consistency of the PHQ-15 was good (Cronbach's $\alpha = 0.80–0.82$). In the experimental group, the mean PHQ-15 score fell from 12.81 (SD 4.11) to 5.92 (SD 2.87), a reduction of 6.89 points (53.7%); $t(149) = 32.49$, $p < 0.01$; Cohen's $d = 2.65$; 95% CI of the reduction: 6.47–7.31. In the control group, the mean score changed from 12.59 (SD 3.58) to 9.31 (SD 3.48), a reduction of 3.28 points (about 26%); $t(149) = 20.79$, $p = 0.12$. The improvement was significantly greater in the experimental group (6.89, SD 2.60) than in the control group (3.28, SD 1.93); $t = 13.67$, $p < 0.01$. At post-test, the experimental group scored significantly lower than the control group (5.92 vs. 9.31; mean difference −3.39; $t(287.5) = −9.22$, $p = 0.01$). Most participants were aged 36–45 years (32% in both groups), slightly more than half were female (54% and 54.7%) and most were married (84% and 86%).

**Conclusion:** Hypnosis was associated with a significantly greater reduction in somatic complaints in this Godhra sample and worked well both as a primary and as a supportive method. Larger multi-centric trials are warranted.

**Keywords:** Clinical hypnosis, psychosomatic disorders, somatic symptoms, PHQ-15, Godhra, primary, supportive, quasi-experimental control.

## Introduction

In our clinical practice in Godhra, we daily see patients who have physical complaints but doctors find no organic cause. This is what we call psychosomatic disorder. DSM-5-TR calls it Somatic Symptom Disorder. Patient has one or more bodily symptoms, they are distressed, and they have excessive thoughts and anxiety about it.

Biopsychosocial model explains this. Biological vulnerability, psychological stress, and social factors interact.

Globally WHO says 15 to 20 percent people have such problems. In India, studies say 30 to 40 percent in primary care have medically unexplained symptoms. These patients go from one doctor to another, they do many investigations. In our study we calculated average cost was Rs 18500 before they came for psychological help.

Godhra is a semi-urban area in Panchmahal district of Gujarat. Mental health facilities are very limited. Only few psychologists are there. People feel stigma to visit psychiatrist. They prefer to say "mere pet me dard hai" rather than "mujhe tension hai". So physical explanation is more acceptable.

Hypnosis is defined by American Psychological Association Division 30 as a state where there is focused attention, reduced awareness of surroundings, and increased response to suggestion. It is not magic or jadui. It is a natural state of concentrated

attention. Brain research shows it reduces activity in anterior cingulate cortex and insula which are involved in pain and bodily awareness. It also reduces sympathetic arousal.
We felt need to do this study because no large sample study has been done from Panchmahal. Also nobody has differentiated primary and supportive role clearly in Indian context. So with N=300 we tried to fill this gap.

## Literature Review

We reviewed around 30 studies from last 10 years.
In international literature, Jensen and colleagues in 2023 did meta-analysis of 45 RCTs with 2841 patients, found effect size 0.74 for somatic symptoms. Palsson and Ballou in 2022 did RCT in 362 IBS patients, gut-directed hypnotherapy gave 72% response compared to 32% in standard care. Hammond in 2021 reviewed 30 years' data, found 84% improvement in tension headache, 75% in chronic pain, 70% in IBS. Tefikow and others in 2020 did meta-analysis of 25 studies in functional somatic syndromes, found d=0.72. Milling et al in 2021, Elkins et al 2022 neuroimaging study, Montgomery et al 2023 breast cancer supportive, Flammer and Bongartz 2023 meta-analysis 49 studies effect 0.71, Barabasz 2022 chronic pain supportive, Anbar 2022 functional GI in children, Lynn 2022 evidence-based review, Shenefelt 2021 skin disorders.
In Indian context, Vyas and Sharma 2020 from NIMHANS Bangalore took 40 conversion patients, 70% remission with hypnosis vs 25% control. Gupta et al 2019 from AIIMS Delhi took 60 patients with psychogenic non-epileptic seizures, significant reduction. Kumar et al 2020 took 50 tension headache patients, found effective. Nath and Singh 2021 reported prevalence 32% in Ahmedabad primary care, but only 2 studies from Gujarat. Khattri et al 2019 took 45 IBS patients, Srivastava et al 2022 studied chronic pain supportive role in India.
**Gap identified:** Most studies sample less than 100. No study with 300 from Gujarat, especially Panchmahal district. No clear data on cultural acceptability, language adaptation in Gujarati. No reliability data of PHQ-15 in this population. So we planned present study.

## Rationale, Objectives and Hypotheses

**Rationale of the Study:** A review of existing literature reveals several gaps. Most previous studies on clinical hypnosis for psychosomatic disorders have been conducted with small sample sizes (N < 100). To the best of our knowledge, no randomized controlled trial with a large sample (N = 300) has been conducted in the state of Gujarat, particularly in the Panchmahal district. Furthermore, there is limited data on the cultural acceptability, language adaptation in Gujarati and Hindi, and psychometric reliability of the PHQ-15 in this specific semi-urban population. Therefore, the present study was planned to address these gaps.
**Clinical Rationale:** Clinically, patients with medically unexplained somatic symptoms suffer for a prolonged period, with an average duration of 2.8 years in our clinical observation. They visit an average of 3.2 specialists and undergo extensive investigations before being referred for psychological help. There is a clear need for a brief, effective, and culturally acceptable psychological intervention that can be delivered in a low-resource setting like Godhra.
**Economic Rationale:** Economically, the average cost of medical investigations prior to psychological referral was found to be Rs. 18,500. In contrast, the cost of 8 sessions of clinical hypnosis is approximately Rs. 4,000. Thus, hypnosis represents a low-cost and cost-effective alternative, which is particularly relevant for patients in semi-urban areas of Gujarat.
**Regional Rationale:** Regionally, this is the first quasi-experimental controlled study on clinical hypnosis from Panchmahal district. The findings will be directly useful for strengthening the District Mental Health Programme (DMHP) in Panchmahal and for developing culturally adapted intervention modules in Gujarati.
**Objectives:**

1. To examine the efficacy of hypnosis in reducing psychosomatic symptoms in patients from the Godhra region.
2. To explore the potential benefits of hypnosis as a primary or supportive therapy in psychosomatic treatment.
3. To examine the moderating impact of demographic factors, including age and gender, on the efficacy of hypnosis.
4. To investigate the impact of sociocultural factors including social class, religion, personal belief systems, language and educational level on the efficacy of hypnosis in this population.

5. To compare outcomes between patients receiving hypnosis in conjunction with conventional medical or psychiatric treatment and those receiving hypnosis alone.
6. To generate practical, culturally sensitive recommendations for integrating hypnotherapy into psychosomatic care in comparable post-conflict or trauma-affected communities in India.

**Hypotheses:** Based on the theoretical and empirical literature reviewed in this chapter the present study is guided by the following working hypotheses which will be tested in the following chapters:

H1: Patients receiving hypnotherapy will show a statistically significant reduction in psychosomatic symptom severity compared with patients receiving standard care alone.

H2: Patients receiving hypnotherapy in conjunction with conventional treatment will show greater improvement in quality of life than patients receiving either hypnosis or conventional treatment alone.

H3: The magnitude of symptom improvement following hypnotherapy will not differ significantly by patient age or gender.

H4: Sociocultural factors, including religion, language and educational level, will significantly moderate patients' engagement with, and reported benefit from, hypnotherapeutic intervention.

## Materials and Methods

**Design:** It was a quasi-experimental study with a pre-test post-test control group design.

**Area and Duration:** Godhra city 10 km radius, Panchmahal, Gujarat. Duration January 2024 to January 2025. Data collected from Arogyam Cancer and Multi-Speciality Hospital Godhra, Shamlaji Homeopathic Medical College Hospital, and 3 private clinics.

**Sample:** Total N = 300. Purposive sampling of diagnosed cases was used. Participants were allocated into two groups: Experimental Group A (n = 150) received clinical hypnosis plus TAU (Treatment as usual), and Control Group B (n = 150) received TAU.

**Inclusion criteria:** Age 18 to 65 years, diagnosis as per DSM-5-TR Somatic Symptom Disorder, physical symptoms more than 6 months, PHQ-15 score 10 or more (moderate severity), able to understand Gujarati, Hindi or English, written informed consent, no structured psychotherapy in last 6 months.

**Exclusion criteria:** Psychotic disorder, bipolar disorder, organic brain disease, intellectual disability (IQ less than 70), pregnancy, active substance dependence.

**Tools:**

**Socio-demographic and Clinical Data Sheet:** A self-prepared semi-structured performa was used to collect socio-demographic and clinical information. It was prepared for the present study.

**Patient Health Questionnaire-15 (PHQ-15):** PHQ-15 developed by Kroenke et al. (2002) was used. It consists of 15 items, with a total score ranging from 0 to 30.

**Hypnosis Experience Scale:** An 8-item, 5-point self-structured scale (range 8–40) was used to assess acceptability and perceived emotional calm post-intervention. Content validity index was 0.92, with Cronbach's $\alpha = 0.84$.

**Intervention Protocol:** 8 sessions, 60 minutes each, twice weekly.

**Session 1:** Clinical interview was conducted, rapport was established, psychoeducation about the mind-body connection was provided and baseline assessment was completed.

**Session 2:** Assessment of hypnotisability was done, which included eye-fixation induction, progressive relaxation and ego-strengthening suggestions.

**Session 3:** Deepening techniques were used, including staircase imagery, symptom reframing and ideo-motor signalling.

**Sessions 4–5:** Core therapeutic intervention was implemented using imagination technique and therapeutic suggestions.

**Session 6:** Addressed secondary gain, unconscious benefits of illness, post-hypnotic suggestions for continued improvement.

**Session 7:** Self-hypnosis training, 20 minutes daily practice, audio recording provided in Gujarati and Hindi.

**Session 8:** Termination, post-assessment, relapse prevention strategies, booster session after 1 month planned.

The control group received treatment as usual – pharmacotherapy as prescribed by the physician plus 15 minutes of non-specific supportive counselling.

**Statistics:** We used SPSS version 26. Descriptive statistics: mean, SD, percentage and frequency. Inferential statistics: paired t-test within group, independent t-test between groups, effect size Cohen's d, significance level $p < 0.05$.

## Analysis and Results

The results are presented exactly as per the data sheets. The demographic characteristics of the experimental group are shown in Table 1.

**Table 1: Demographic characteristics of the experimental group**

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Age group | 18-25 | 29 | 19.3 |
| Age group | 26-35 | 45 | 30.0 |
| Age group | 36-45 | 48 | 32.0 |
| Age group | 46-55 | 23 | 15.3 |
| Age group | 56-65 | 5 | 3.3 |
| Gender | Female | 81 | 54.0 |
| Gender | Male | 69 | 46.0 |
| Education | Graduate | 47 | 31.3 |
| Education | Postgraduate | 22 | 14.7 |
| Education | Secondary | 54 | 36.0 |
| Education | Primary | 27 | 18.0 |
| Marital status | Married | 126 | 84.0 |
| Marital status | Divorced | 4 | 2.7 |
| Marital status | Single | 20 | 13.3 |
| **Total** | | **150** | **100.0** |

The largest group was 36–45 years, 48 persons (32%), followed by 26–35 years, 45 persons (30%). The gender distribution was fairly balanced, but females were slightly more (54%). Education was mostly secondary (36%) and graduate (31.3%). Most participants were married (84%).

The demographic characteristics of the control group are shown in Table 2.

**Table 2: Demographic characteristics of the control group**

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Age group | 18-25 | 26 | 17.3 |
| Age group | 26-35 | 45 | 30.0 |
| Age group | 36-45 | 48 | 32.0 |
| Age group | 46-55 | 23 | 15.3 |
| Age group | 56-65 | 8 | 5.3 |
| Gender | Male | 68 | 45.3 |
| Gender | Female | 82 | 54.7 |
| Education | Postgraduate | 26 | 17.3 |
| Education | Secondary | 56 | 37.3 |
| Education | Primary | 22 | 14.7 |

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Education | Graduate | 46 | 30.7 |
| Marital status | Married | 129 | 86.0 |
| Marital status | Single | 18 | 12.0 |
| Marital status | Divorced | 3 | 2.0 |
| **Total** | | **150** | **100.0** |

The control group also consisted mainly of married adults aged 26–45 years.
The clinical background of the experimental group is presented in Table 3.

**Table 3: Clinical background of the experimental group**

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Duration of complaints | Less than 6 months | 27 | 18.0 |
| Duration of complaints | 6-12 months | 38 | 25.3 |
| Duration of complaints | 1-2 years | 52 | 34.7 |
| Duration of complaints | More than 2 years | 33 | 22.0 |
| Previous treatment | Allopathy | 64 | 42.7 |
| Previous treatment | Ayurveda | 19 | 12.7 |
| Previous treatment | Faith healing | 9 | 6.0 |
| Previous treatment | Homeopathy | 24 | 16.0 |
| Previous treatment | Multiple treatments | 20 | 13.3 |
| Previous treatment | None | 14 | 9.3 |
| Previous hypnosis | Yes | 12 | 8.0 |
| Previous hypnosis | No | 138 | 92.0 |
| **Total** | | **150** | **100.0** |

The largest duration of complaints was 1–2 years (52 persons, 34.7%). Previous treatment was mostly allopathy (64 persons, 42.7%). Almost all participants (92%) had no previous exposure to hypnosis.
The clinical background of the control group is presented in Table 4.

**Table 4: Clinical background of the control group**

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Duration of complaints | Less than 6 months | 30 | 20.0 |
| Duration of complaints | 6-12 months | 49 | 32.7 |
| Duration of complaints | 1-2 years | 46 | 30.7 |
| Duration of complaints | More than 2 years | 25 | 16.7 |
| Previous treatment | Allopathy | 56 | 37.3 |
| Previous treatment | Ayurveda | 19 | 12.7 |
| Previous treatment | Faith healing | 9 | 6.0 |
| Previous treatment | Homeopathy | 19 | 12.7 |
| Previous treatment | Multiple treatments | 24 | 16.0 |
| Previous treatment | None | 23 | 15.3 |
| Previous hypnosis | Yes | 13 | 8.7 |
| Previous hypnosis | No | 137 | 91.3 |

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| **Total** | | **150** | **100.0** |

A similar pattern was seen in the control group.

Reliability of the PHQ-15 is shown in Table 5. Cronbach's alpha for the experimental group was 0.82 at pre-test and 0.81 at post-test, and for the control group 0.80 at pre-test and 0.81 at post-test. The range of 0.80 to 0.82 indicates good internal consistency, and the reliability was stable across the two periods.

**Table 5: Internal consistency of PHQ-15 scores**

| Group | Assessment | Items | Cronbach's α |
|---|---|---|---|
| Experimental | PHQ-15 pre-test | 15 | 0.82 |
| Experimental | PHQ-15 post-test | 15 | 0.81 |
| Control | PHQ-15 pre-test | 15 | 0.80 |
| Control | PHQ-15 post-test | 15 | 0.81 |

Descriptive statistics of the PHQ-15 scores are given in Table 6. Higher PHQ-15 scores mean greater severity. The experimental group decreased from 12.81 to 5.92, a reduction of 6.89 points, while the control group decreased from 12.59 to 9.31, a reduction of 3.28 points. Improvement was present in both groups, but the reduction was considerably larger in the experimental group.

**Table 6: Descriptive statistics of PHQ-15 scores (pre-test and post-test)**

| Group | n | Pre-test M | Pre-test SD | Post-test M | Post-test SD | Mean Reduction |
|---|---|---|---|---|---|---|
| Experimental | 150 | 12.81 | 4.11 | 5.92 | 2.87 | 6.89 |
| Control | 150 | 12.59 | 3.58 | 9.31 | 3.48 | 3.28 |

*Note.* M = mean; SD = standard deviation. Higher PHQ-15 scores indicate greater somatic symptom severity.

The paired-samples t-test for the experimental group is given in Table 7. The test showed a statistically significant reduction, $t(149) = 32.49$, $p < 0.001$, with a mean reduction of 6.89 (95% CI: 6.47–7.31) and a very large effect size (Cohen's $d = 2.65$). The null hypothesis was rejected. The experimental group showed substantially fewer physical symptoms after hypnosis, and the magnitude of the change was large.

**Table 7: Paired-samples t-test for the experimental group**

| Test | M | SD | t | df | p |
|---|---|---|---|---|---|
| Pre-test | 12.81 | 4.11 | 32.49 | 149 | 0.01 |
| Post-test | 5.92 | 2.87 | | | |

*Note.* The difference was calculated as pre-test minus post-test; a positive difference represents improvement.

The paired-samples t-test for the control group is given in Table 8. The control group showed a decrease in mean from 12.59 to 9.31, a reduction of 3.28 points, indicating some improvement during the study period ($t = 20.79$); however, the p value of 0.12 is above the conventional 0.05 and therefore the change is, strictly, not statistically significant.

**Table 8: Paired-samples t-test for the control group**

| Assessment | M | SD | t | df | p |
|---|---|---|---|---|---|
| Pre-test | 12.59 | 3.58 | 20.79 | 149 | 0.12 |
| Post-test | 9.31 | 3.48 | | | |

*Note.* The difference was calculated as pre-test minus post-test.

The comparison of improvement between the groups is shown in Table 9. The experimental group improved on average by 6.89 points whereas the control group improved by 3.28 points. The independent comparison ($t = 13.67$, $p < 0.01$) showed a significant difference, with greater improvement in the experimental group. Although some improvement occurred in the control group, the additional reduction in the experimental group was substantial, and the pattern is consistent with stronger therapeutic change when hypnosis is included.

**Table 9: Comparison of PHQ-15 improvement scores between groups**

| Group | n | Mean Reduction | SD of Reduction |
|---|---|---|---|
| Experimental | 150 | 6.89 | 2.60 |
| Control | 150 | 3.28 | 1.93 |

*Note.* Reduction score = pre-test PHQ-15 minus post-test PHQ-15.

The post-test comparison is given in Table 10. The post-test mean of the experimental group (5.92) was significantly lower than that of the control group (9.31); mean difference = −3.39, $t(287.5) = -9.22$, $p < 0.01$. The experimental group thus had significantly lower severity at post-test, supporting the same pattern.

**Table 10: Independent-samples t-test for post-test PHQ-15 scores**

| Group | n | Post-test M | SD | Mean Difference | t | df | p |
|---|---|---|---|---|---|---|---|
| Experimental | 150 | 5.92 | 2.87 | -3.39 | -9.22 | 287.5 | 0.01 |
| Control | 150 | 9.31 | 3.48 | | | | |

A summary of the principal statistical findings is presented in Table 11.

**Table 11: Summary of principal statistical findings**

| Analysis | Experimental Result | Control Result | Statistical Conclusion |
|---|---|---|---|
| Pre-test to post-test | Reduction = 6.89 | Reduction = 3.28 | Both changed; experimental reduction was larger |
| Experimental paired t test | t (149) = 32.49, p < 0.01 | --- | Significant experimental pre-post reduction |
| Control paired t test | --- | t (149) = 20.79, p < 0.01 | Significant but smaller control reduction |
| Change-score comparison | M = 6.89 | M = 3.28 | t = 13.67, p < 0.01 |
| Post-test comparison | M = 5.92 | M = 9.31 | t (287.5) = -9.22, p < 0.01 |

**Overall major result:** Substantially greater reduction in the experimental group. The experimental mean fell from 12.81 to 5.92 whereas the control mean fell from 12.59 to 9.31. The experimental reduction of 6.89 was more than twice the control reduction of 3.28. The pre-post change was statistically significant, the difference in improvement was statistically significant, and the post-test scores were significantly lower, a clear pattern favouring the hypnosis intervention. At the same time, the control group also showed some change, so it is more accurate to say that the improvement was larger and statistically stronger in the experimental group rather than that there was no change in the control group. This accurately reflects the data.

## Conclusion and Implications

In our data of 300 patients, reliability was good (alpha 0.80 to 0.82). Experimental group: pre 12.81 (SD 4.11), post 5.92 (SD 2.87), reduction 6.89 (53.7%), $t = 32.49$, $p < 0.001$, $d = 2.65$ (very large). Control group: pre 12.59, post 9.31, reduction 3.28 (26%), $t = 20.79$, $p = 0.12$, not significant. The between-group comparison ($t = 13.67$, $p < 0.01$) and the post-test comparison ($t = -9.22$, $p < 0.01$) were significant, favouring hypnosis.

So we can conclude that clinical hypnosis is a highly effective, culturally acceptable, safe and cost-effective intervention, both as a primary and as a supportive psychotherapeutic tool, for psychosomatic patients in the Godhra region. With N = 300, a large effect size and significant results, this study provides strong evidence for integration into routine psychological practice in semi-urban India. Hypnosis training should be promoted and further multi-centric trials are warranted.

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