

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## A Meta-analysis of the Effect of Mindfulness Therapy on Neuropathic Pain of Patients

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**Review question / Objective:** Objective :To evaluate the effect of mindfulness-based therapy on patients with neuropathic pain. **Patient:** Patients with neuropathic pain. **Intervention:** Mindfulness-based stress therapy. **Outcome index:** The main index was pain score; **Secondary indexes** were anxiety and depression scale, quality of life scale, sleep quality scale, etc. **Study design.** Case-control study.

**Eligibility criteria:** Inclusion criteria: ① patients over 18 years of age diagnosed with neuropathic pain; ② The study design was a randomized controlled experiment; ③ Mindfulness-based stress reduction therapy was an intervention measure; ④ Pain assessment scale as one of the outcome statistical indicators; ⑤ Chinese and English literature.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 May 2023 and was last updated on 13 May 2023 (registration number INPLASY202350052).

### INTRODUCTION

**Review question / Objective:** Objective :To evaluate the effect of mindfulness-based therapy on patients with neuropathic pain. **Patient:** Patients with neuropathic pain. **Intervention:** Mindfulness-based stress therapy. **Outcome index:** The main index was pain score; **Secondary indexes** were anxiety and depression scale, quality of life

scale, sleep quality scale, etc. **Study design.** Case-control study.

**Condition being studied:** Neuropathic pain is actually a very common disease, with an incidence of 6%-7.7% in the general population. About 20%-24% of diabetic patients have diabetic peripheral neuropathic pain. About 25% to 50% of patients over the age of 50 who are

infected with shingles will develop postherpetic neuralgia 3 months after the herpes cure. 20% of patients undergoing mastectomy suffer from postoperative neuralgia, and about 1/3 of tumor patients suffer from neuropathic pain. 7% of patients with low back pain may have neuropathic pain. So you can say that almost everyone has some form of neuralgia around them. Studies have shown that mindfulness-based stress reduction therapy involves training in attention stability and flexibility. A receptive attitude can be used to reassess transient, uninterrupted disruptive events, which can improve patients' mental flexibility. Be open-minded and non-judgmental about how you feel in the moment. Alleviate the adverse outcomes of pain prevalence, cognitive integration and empirical avoidance, such as pain, anxiety, depression, sleep, etc. Other studies have suggested that MBSR may not improve pain, anxiety and depression, but due to some positive findings, there is an evidence base that may exaggerate the true effects and efficacy of MBSR. This may lead to fewer published studies with less significant results on MBSR. Based on the above reasons, this study is dedicated to studying the real intervention effect of mindfulness-based stress reduction therapy on neuropathic pain.

## METHODS

**Search strategy:** For example  
Pubmed search strategy

#1 Search: ((((((Mindful\*[MeSH Terms]) OR (Mindful\*[Title/Abstract])) OR (MBSR[Title/Abstract])) OR (meditation[MeSH Terms])) OR (meditation[Title/Abstract])) OR (mindfulness\*[MeSH Terms])) OR (mindfulness\*[Title/Abstract]))

#2 Search: (((((((((((neuropathic pain\*[MeSH Terms]) OR (neuropathic pain\*[Title/Abstract])) OR (Chronic neuropathic pain\*[MeSH Terms])) OR (Chronic neuropathic pain\*[Title/Abstract])) OR (neuralgia\*[MeSH Terms])) OR (neuralgia\*[Title/Abstract])) OR (neurogenic pain\*[MeSH Terms])) OR (neurogenic pain\*[Title/Abstract])) OR (radicular pain\*[MeSH Terms])) OR (radicular pain

\*[Title/Abstract])) OR (neural pain\*[MeSH Terms])) OR (neural pain\*[Title/Abstract])) OR (neuropath\*[MeSH Terms])) OR (neuropath\*[Title/Abstract]))

#3 Search: (((((((((((Mindful\*[MeSH Terms]) OR (Mindful\*[Title/Abstract])) OR (MBSR[Title/Abstract])) OR (meditation[MeSH Terms])) OR (meditation[Title/Abstract])) OR (mindfulness\*[MeSH Terms])) OR (mindfulness\*[Title/Abstract])) AND (((((((((((neuropathic pain\*[MeSH Terms]) OR (neuropathic pain\*[Title/Abstract])) OR (Chronic neuropathic pain\*[MeSH Terms])) OR (Chronic neuropathic pain\*[Title/Abstract])) OR (neuralgia\*[MeSH Terms])) OR (neuralgia\*[Title/Abstract])) OR (neurogenic pain\*[MeSH Terms])) OR (neurogenic pain\*[Title/Abstract])) OR (radicular pain\*[MeSH Terms])) OR (radicular pain\*[Title/Abstract])) OR (neural pain\*[MeSH Terms])) OR (neural pain\*[Title/Abstract])) OR (neuropath\*[MeSH Terms])) OR (neuropath\*[Title/Abstract]))).

**Participant or population:** Patients over 18 years of age diagnosed with neuropathic pain.

**Intervention:** The standard course of MBSR therapy is as follows: ① Training duration: 2.5 to 3.5 hours per week for 8 weeks, followed by a full day (7.5 hours) of training on the sixth week "mindfulness day". ② Training techniques include formal methods and informal methods. Formal methods include body scanning, mindful yoga, sitting meditation, mindful walking, etc., while informal methods include the detection of pleasant and unpleasant events, the detection of breathing, the detection of eating, walking, interpersonal communication and other daily activities. The perception of shifting your attention to the here and now. Daily homework includes 45 minutes of formal training and 5 to 15 minutes of informal training. ③ Training form: 15 to 40 participants conduct group training. In practical application, researchers will adjust the 8-week MBSR subject according to patients' specific conditions, record audio and video courses, help patients practice at home through mobile phones or CDS, and

provide homework notebooks for patients to keep gratitude diaries and describe positive events.

**Comparator:** Patients is treated with commonly used medication nursing, psychological nursing, home knowledge.

**Study designs to be included:** Randomized controlled study.

**Eligibility criteria:** Inclusion criteria: ① patients over 18 years of age diagnosed with neuropathic pain; ② The study design was a randomized controlled experiment; ③ Mindfulness-based stress reduction therapy was an intervention measure; ④ Pain assessment scale as one of the outcome statistical indicators; ⑤ Chinese and English literature.

**Information sources:** Chinese databases include: China National Knowledge Network, Wanfang Database, VIP. English databases include: PubMed, Embase, CINAL, Cochrane Library, Web Of Science database.

**Main outcome(s):** The main index was pain score; Secondary indexes were anxiety and depression scale, quality of life scale, sleep quality scale, etc.

**Quality assessment / Risk of bias analysis:** Two nursing workers trained in evidence-based nursing were given the Cochrane Collaboration network bias risk assessment tool. Literature quality was classified into three grades: A (fully consistent with the contents of the article), B (partially consistent with the contents of the article), and C (completely inconsistent with the contents of the article), and C (completely inconsistent with the contents of the article).

**Strategy of data synthesis:** Meta-analysis was performed using RevMan 5.3 software, and variance (MD) was used as the effect index. The heterogeneity was tested by Q test and I<sup>2</sup> test, and the heterogeneity was large in all studies ( $P \leq 0.1$ ,  $I^2 > 50\%$ ), the

random effects model is used, otherwise the fixed effects model is used.

**Subgroup analysis:** Subgroup analysis was carried out according to the disease types.

**Sensitivity analysis:** Sensitivity analysis was carried out by revman software, and the sensitivity of the article was reflected by the change of effect size after deleting one of the articles.

**Country(ies) involved:** China.

**Keywords:** Mindfulness; Neuropathic pain; Intervention; Meta-analysis.

**Contributions of each author:**

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