# Mind-body Therapy For The Treatment and/or Management of Fibromyalgia: A Scoping Review

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# Conflict of Interest

I have no conflicts of interest to declare.

# Background

- Estimates suggest that the global prevalence of fibromyalgia (FM) ranges from 2% to 7% [1-4].
- Individuals with FM report widespread pain, reduced physical functioning and mental health, and poor quality of life [5].
- The combined economic and societal burden is on the same level as other chronic diseases, such as diabetes and hypertension [6-7].

| Associated Signs and Symptoms | Prevalence |
|---|---|
| Widespread pain | 97.6% |
| Fatigue | 81.4% |
| Morning stiffness | 77.0% |
| Sleep disturbance | 74.6% |
| Headache | 52.8% |
| Anxiety | 47.8% |
| Depression | 31.5% |
| Irritable bowel syndrome | 29.6% |

# Mind-body therapies

| | |
|---|---|
| Mindfulness [8] | •Mindfulness Based Stress Reduction (MBSR)<br>•Meditation Awareness Training (MAT) |
| Relaxation therapy [9] | •Autogenic training<br>•Guided imagery<br>•Progressive Muscle Relaxation (PMR) |
| Biofeedback [10] | •Electromyography (EMG)<br>•Electroencephalography (EEG) (neurofeedback) |
| Movement therapies [11-12] | •Yoga<br>•Tai Chi<br>•Qi Gong |

# Objective

- Our scoping review aimed to (1) summarize existing evidence on the effectiveness and safety of mind-body therapy for adults with FM, and (2) to identify gaps in the published evidence to guide potential avenues for future intervention work.

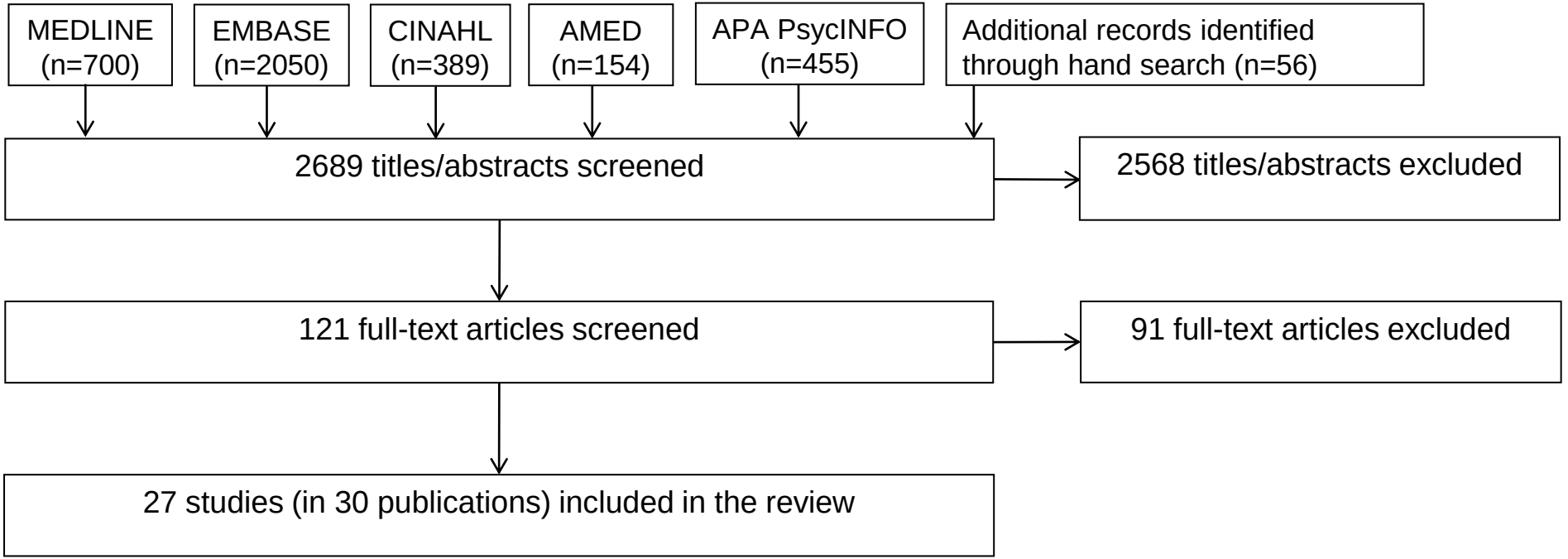
# Methods

| JBI Scoping Review Framework 2020 [13] |
| --- |
| 1. Defining and aligning the objective/s and question/s. |
| 2. Developing and aligning the inclusion criteria with the objective/s and question/s. |
| 3. Describing the planned approach to evidence searching, selection, data extraction, and presentation of the evidence. |
| 4. Searching the evidence. |
| 5. Selecting the evidence. |
| 6. Extracting the evidence. |
| 7. Analysis of the evidence. |
| 8. Presentation of the results. |
| 9. Summarizing the evidence in relation to the purpose of the review, making conclusions and noting any implications of the findings. |

# Eligibility Criteria

| PICOS | |
|---|---|
| Population | Adults ≥18 years of age with a clinical diagnosis of FM (as defined by ACR [14-16] or AAPT criteria [17]) |
| Intervention | Autogenic training, biofeedback, MBSR, MAT, guided imagery, PMR, tai chi, qi gong, and yoga |
| Control group | Not considered for eligibility |
| Outcomes [18-19] | 1. Pain<br>2. Fatigue<br>3. Patient global impression of change<br>4. Multidimensional function<br>5. Sleep disturbance<br>6. Depression<br>7. Anxiety<br>8. Adverse events |
| Study design | Primary research articles (RCTs, quasi-experimental, observational studies, etc.) |

# Results


MEDLINE (n=700)
EMBASE (n=2050)
CINAHL (n=389)
AMED (n=154)
APA PsycINFO (n=455)
Additional records identified through hand search (n=56)
2689 titles/abstracts screened
2568 titles/abstracts excluded
121 full-text articles screened
91 full-text articles excluded
27 studies (in 30 publications) included in the review

# Study Characteristics

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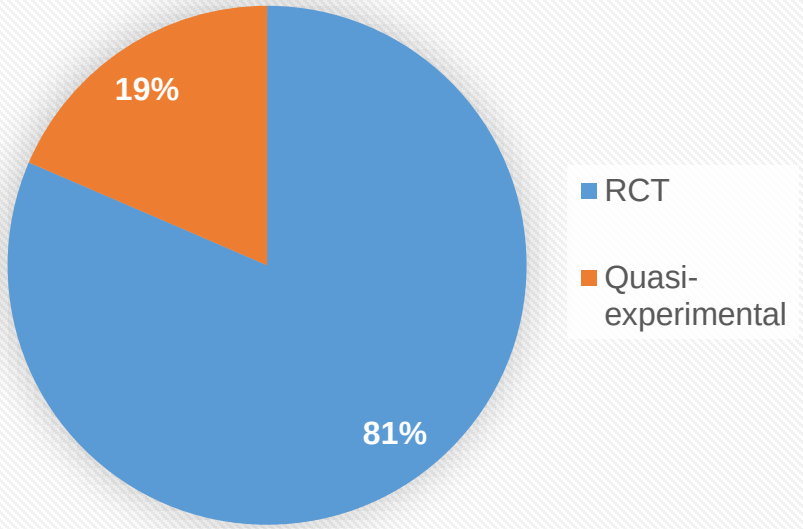
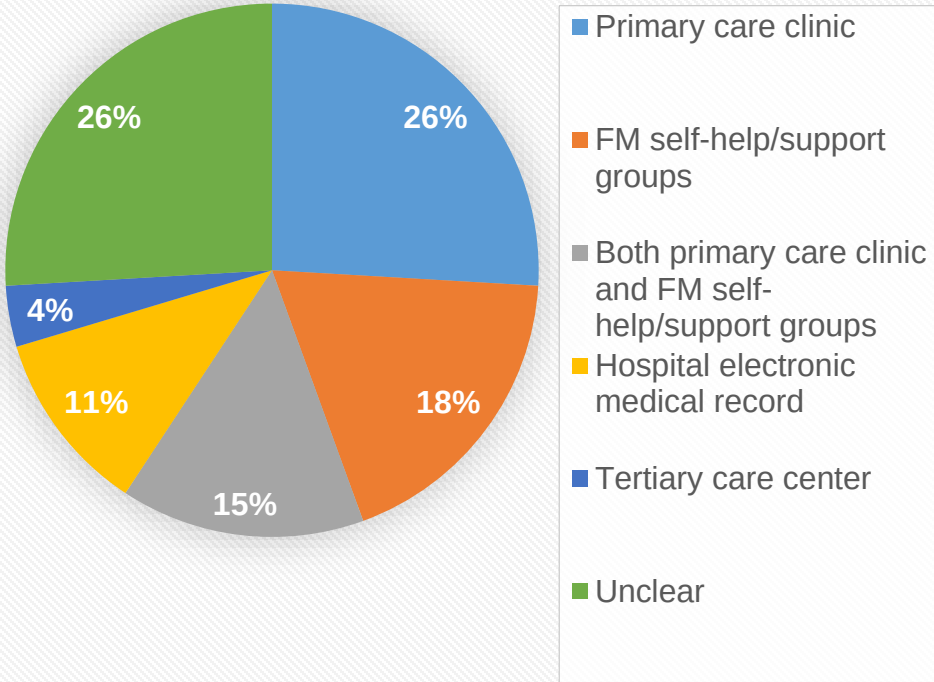
## Study design




## Recruitment setting



# Study Characteristics (cont.)

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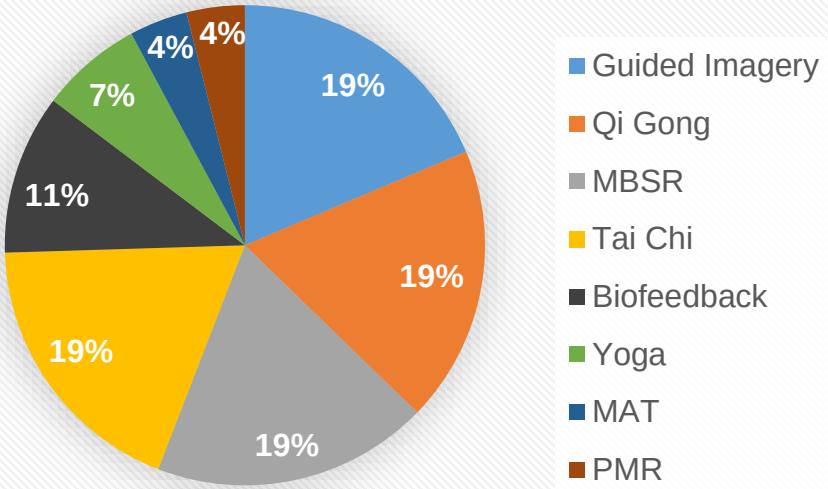
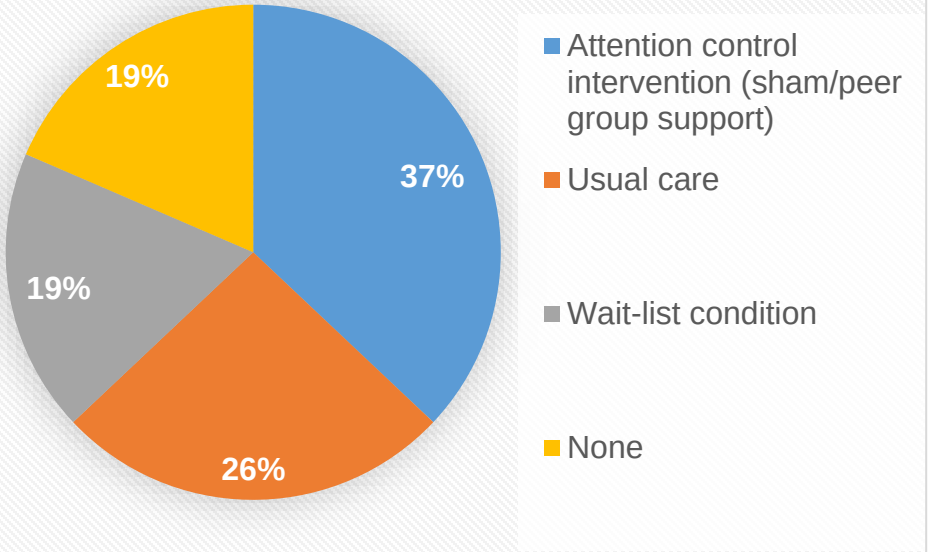
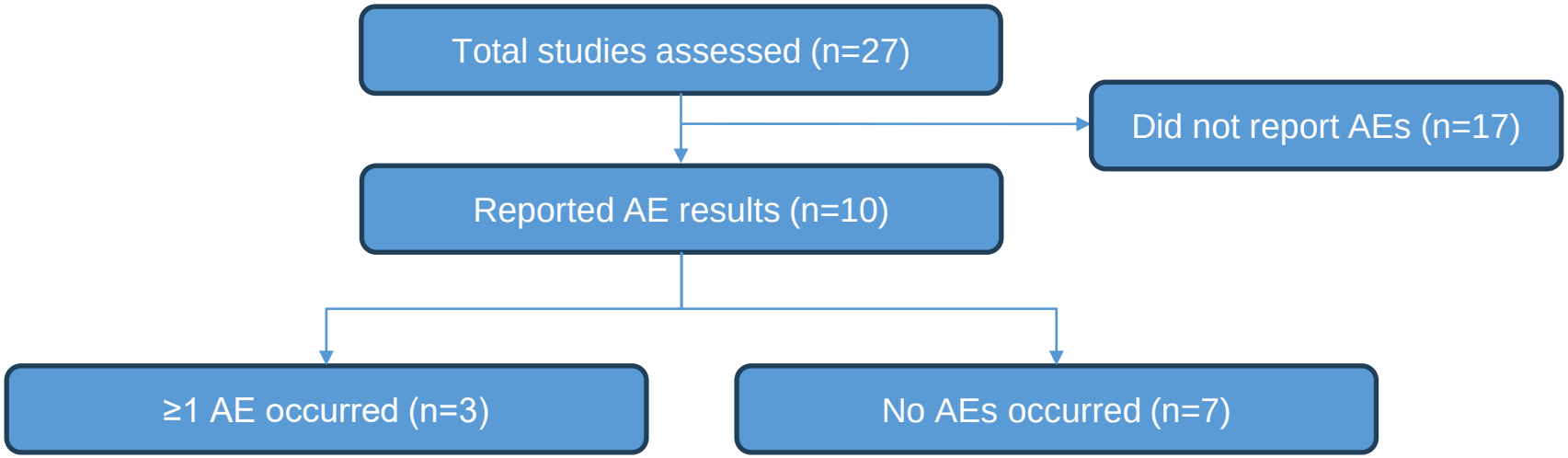
## Type of mind-body therapy




## Comparison group



# Adverse Events




- Fatigue (n=3)
- Tension/soreness (n=2)
- Headaches (n=2)

# Number of Studies with Significant Improvements in Outcome at End of Treatment

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| | Guided imagery (n=5) | Qi Gong (n=5) | MBSR (n=5) | Tai Chi (n=5) | Biofeedback (n=3) | Yoga (n=2) | MAT (n=1) | PMR (n=1) |
|---|---|---|---|---|---|---|---|---|
| Pain | 4/5 | 5/5 | 0/2 | 5/5 | 2/3 | 1/2 | 1/1 | 1/1 |
| Fatigue | 3/3 | 3/4 | 1/1 | 4/4 | 0/2 | 1/2 | NR | 1/1 |
| Global impression of change | NR | 0/1 | 1/1 | NR | 0/1 | 0/1 | NR | NR |
| Multidimensional function | 2/4 | 5/5 | 3/4 | 3/3 | 1/3 | 0/2 | 1/1 | NR |
| Sleep disturbance | 3/3 | 3/4 | 2/2 | 2/3 | NR | 1/2 | 1/1 | NR |
| Anxiety | 1/1 | 1/1 | 0/2 | 3/3 | 1/2 | 0/2 | NR | NR |
| Depression | 2/2 | 1/2 | 1/3 | 3/3 | 1/2 | 0/1 | NR | NR |

NR: Not reported by any eligible studies

# Discussion

- Pain and multidimensional function were the most reported across trials
- Evidence for the efficacy of mind-body therapies for FM varied across the patient-important outcomes
  - Qi gong and tai chi demonstrated evidence for a significant improvement across the most outcomes
  - Tai Chi presented the most evidence for significant improvements in anxiety and depression symptoms [20]
- Lack of emphasis on safety assessments, which is in agreement with other mind-body therapy studies [21,22]
- Limited evidence was available to determine the long-term impact of mind-body therapies for adults with FM

# Limitations

- Risk of language bias as only publications in English were included
- Potential influence of publication bias as we did not identify any relevant unpublished data (e.g. preprints/theses)
- We were unable to incorporate keywords/terms to search for every individual mind-body therapy used for FM, including those that are less widely recognized or known
- Data were unable to be extracted from several studies that presented their findings graphically

# Recommendations for Future Research

- More reporting on the safety of the interventions, including observing and tracking AEs
- Further investigation into the sustainability of benefits over longer periods
- Greater focus on accurately reporting randomization procedures and allocation concealment processes
- Future trials should consider following the OMERACT initiative [18] for standardization, incorporating a core set of outcome measures to enhance consistency across clinical trials in FM

# Conclusions

- Some mind-body therapies may be effective in improving pain, multidimensional function, fatigue, and sleep disturbance for adults with FM, but the quality of the evidence is low.
- Qi Gong and Tai Chi demonstrate the most consistent evidence for improvement in these outcomes, followed by guided imagery.
- The efficacy of mindfulness, biofeedback, yoga, and autogenic training remains uncertain due to either low-quality evidence or a lack of relevant studies.

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# Discussion & Questions

Thank you for your kind attention!

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