Meditation for the secondary prevention of depression and anxiety in heart disease: A systematic review

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IMPACCT – Improving Palliative, Aged and Chronic Care through Clinical Research and Translation
Introduction

- Heart disease remains the **leading cause of global morbidity and mortality**
- Attendance at cardiac outpatient rehabilitation programs remains low
- **Unmet psychological support needs**
Aims

• Identify high levels of evidence for *adjunct meditation strategies* designed to improve *depression and anxiety* symptoms among adults with *heart disease*

• Classify the *elements of meditation interventions* that facilitated improvements in depression or anxiety after a cardiac event.
Methods

Eligibility criteria: which studies included patients recommended to cardiac rehabilitation (CR) programs?

- Acute coronary syndromes
- Surgical patients (coronary artery bypass surgery, cardiac stenting, pacemakers….)
- Heart failure
- Modifiable risk factors

Outcomes

- Depression and anxiety
**Methods**

Records identified through database searching. (n = EMBASE/MEDLINE (540); CINAHL/PSYCINFO (65); AMED (20); Cochrane (144) = 769)

Records after duplicates removed (n = 727)

Records screened (n = 727)

Full-text articles assessed for eligibility (n = 78)

Studies included in quantitative synthesis (n = 9)

Additional records identified through other sources (n = 11)

Records excluded (n = 649)

Full-text articles excluded, with reasons (n = 69)

- Adolescents/children = 3
- Inpatients = 12
- No depression/anxiety outcomes n = 2
- Commentary/forward = 3
- Biofeedback, autogenic training, PMR/breathing exercises = 10
- Multicomponent = 2
- Healthy adults = 3
- No recent cardiac admission/event or CR = 14
- Review = 5
- Not experimental = 3
- Includes exercise component (e.g., yoga, tai chi, Qigong) = 8
- Report = 1
- Editorial = 1
- Design/methods paper = 1
- Non-English = 1
Results

Sample characteristics?

• Internationally relevant population - high-income countries [US (n=6) & Netherlands (n=1)]
  - low-income countries [India (n=1) & Iran (n=1)]

• Predominately male (67%)
# Results

## What did participation look like?

<table>
<thead>
<tr>
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<th>Frequency</th>
<th>Duration</th>
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<tbody>
<tr>
<td><strong>Home practice</strong></td>
<td>1.3 sessions (SD ± 0.8) (9 studies)</td>
<td>23 minutes (SD ± 9) (6 studies)</td>
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<tr>
<td><strong>Group sessions</strong></td>
<td>11 sessions (SD ± 7) (5 studies)</td>
<td>68 minutes (SD ± 27) (5 studies)</td>
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<td><strong>Intervention period</strong></td>
<td>9.5 weeks (SD ± 4.8) (8 studies)</td>
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Results

**Intervention delivery: Who delivered the sessions?**

- Researcher/RN (2 studies)
- Self administered home practice with an audiotape or CD only (2 studies)
- Professional health educators (1 study)
- Health care professionals (1 study)
- Clinical psychologist (1 study)
- Music therapist (1 study)
Results
What did the usual care and comparison groups do?

Usual care
• Conventional CR
• Waitlist control
• Cardiologist follow up appointment

Comparison groups
• 10 minute phone call (defibrillator concerns)
• Self help booklet
• Medical advice re: diet, exercise and health education class
• Weekly health education class (risk factor modification)
Results

Outcomes
Statistically significant improvements in over half (5/9) phase II studies

Specific heart disease populations?
- CHF
- CHD/ CVD
- Metabolic syndrome/ co-morbid CHD
- CVD/ co-morbid depression
- PCI patients
- Male AICD recipients

Types of interventions
- Guided imagery
- MBSR
- Mindfulness meditation
Results

Depression

- Statistically significant differences in four studies
- MBSR or an adapted version of MBSR (3 studies)
- Guided imagery (1 study)

Anxiety

- Statistically significant results in three studies
- MBSR or an adapted version of MBSR (2 studies)
- Within group differences using guided imagery (1 study)
Results

What elements of meditation interventions worked across studies?

• Daily home meditation practice (5/9 studies)

• Focused attention to body parts (3/4 studies) = improved depression, anxiety, state anxiety

• Group meetings (4/5 studies) = improved depression only
Discussion

• No phase III randomised controlled trials

• Preliminary efficacy for reductions in depression and anxiety symptoms

• Mindfulness a potential meditator for improvements in depression and anxiety (<60 years)

• Results in line with American Heart Association recommendations
Implications for research/ conclusion

- Definitive research (phase III RCT) needed
- **Reporting** of meditation studies should adhere to the **CONSORT statement**
- Effect of the **practitioner** and effect of the **group dynamic** needs consideration
- **Gender specific** analyses
- **Mechanisms of effect**
- **Meditation elements** for specific heart disease populations?
Thank you