

Meditation and Secondary Prevention of Depression and Anxiety in Heart Disease: A Systematic Review

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Background: Heart disease remains the leading cause of global mortality, accounting for 17.7 million deaths per year (1). Comorbid depression and anxiety further increases the risk of mortality and adverse cardiac events (2). Depression and anxiety are highly prevalent after an acute cardiac event or hospitalisation, inhibiting many adults from optimising their participation in cardiac rehabilitation programs, and reducing their capacity to understand and effectively self-manage their symptoms. Sustainable adjunct therapies are required to ensure a patient centred approach to heart disease secondary prevention that best addresses the unmet needs of patients for psychological support following their acute cardiac event (3, 4). Meditation is an adjunct therapy recently recognised by the American Heart Association as a viable option for cardiovascular risk reduction and as a psychological support strategy for those interested in lifestyle modification (5). Meditation is derived from Eastern spiritual practices and has been reframed for integration in Western society by way of Mindfulness Based Interventions and Transcendental Meditation, making it an appropriate low cost strategy for implementation globally (6).

Aims: This systematic review aims to: 1) identify high levels of evidence for meditation interventions designed to improve depression and/or anxiety symptoms among adults with heart disease in a health care clinical setting after an inpatient hospitalisation; and 2) classify the elements of meditation that facilitate positive depression and/or anxiety outcomes.

Methods: High level evidence, including randomised controlled trials and quasi-experimental studies published between 1979 and 27th September 2017, in an English peer-reviewed journal were eligible for inclusion. Databases searched included MEDLINE, Embase, CINAHL, PsycInfo, AMED and the Cochrane Database of Systematic Reviews. The data was extracted by two reviewers and checked by a third reviewer to resolve any conflicts. This review conforms to the PRISMA statement and has adhered to the Cochrane Risk of Bias guideline.

Results: Nine studies of meditation interventions were identified, involving 477 participants. Statistically significant outcomes were demonstrated in over half (5/9) of the phase II meditation interventions for depression and/or anxiety outcomes. Meditation interventions that generated positive outcomes for depression and/or anxiety included elements such as: focused attention to body parts (or a body scan) (3/4 studies), and/or group meetings (4/5 studies).

Conclusion: Meditation is a means of reframing heart disease secondary prevention services towards an integrated model of care that incorporates a patient centred approach. Future adequately powered phase III studies are needed to confirm which meditation elements are associated with reductions in depression and anxiety; and the differential effects between concentrative and mindfulness based meditation therapies for specific heart disease populations.

Title:

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Keywords:

depression, anxiety, heart disease and mind-body therapies

References:

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Abstract Summary:

This systematic review examines the potential for meditation, as an adjunct heart disease secondary prevention strategy to improve depression and anxiety after a cardiac event.

Content Outline:

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Conclusion: Meditation is a means of reframing heart disease secondary prevention services towards an integrated model of care that incorporates a patient centred approach. Future adequately powered phase III studies are needed to confirm which meditation elements are associated with reductions in depression and anxiety; and the differential effects between concentrative and mindfulness based meditation therapies for specific heart disease populations.

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Professional Experience: 2015 – present-- PhD candidate, Faculty of Health, University of Technology Sydney (UTS) 2015 – present-- Study Co-ordinator/ Clinical Trials Nurse, IMPACCT, UTS Project: Heart Awareness for Women Randomised Clinical Trial (Australian Research Council Funded) 2015 – present-- Casual Academic, Faculty of Health UTS Tutor, Accountability in Nursing Practice, 3rd year undergraduates (Autumn 2016, 2017) Tutor, Evidence for Nursing, 2nd year undergraduates (Spr. 2015, 2016, Autumn 2017) 2014-2017-- Research Assistant Grade 3, Faculty of Health, UTS. Project: BRIDGE: Bridging the evidence practice gap in a postgraduate nursing Masters' Degree (UTS Teaching and Learning Grant). 2014 - Bachelor of Nursing (Honours – first class), UTS 2013 – present-- Registered Nurse, Royal North Shore Hospital PACU. Author or co-author of 5 peer reviewed publications in high impact journals. Disseminated research findings at 5 national and international conference presentations. Completed 22 editorial reviews for Contemporary Nurse Journal and Collegian

Author Summary: Angela Rao is an RN with extensive clinical experience, and a PhD Candidate at the University of Technology Sydney (UTS). She is the study coordinator for an Australian Research Council funded RCT exploring gender specific strategies to improve heart disease secondary prevention for women. Angela is leveraging off her 14 years' experience in personal and guided group meditation, developing a track record in translating mind-body therapies into clinical practice, and psychological symptom management.

Second Author

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Professional Experience: Has a PhD in behavioural health and has collaboratively authored 100 publications relating to how individuals, families and communities negotiate, cope and adjust to living with chronic health conditions. Numerous presentations at scientific meetings.

Author Summary: Dr Michelle DiGiacomo's research examines the contexts within which individuals,

families and communities negotiate, cope and adjust to living with chronic health conditions. She has a strong background in qualitative and mixed methods research with vulnerable populations.

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Professional Experience: 2017 –present – Professor/Director –Nursing Research Centre, Western Sydney University, Western Sydney Local Health District 2017 –present – Vice President ACNC 2017 - present -Adjunct Professor UTS 2017 Associate Professor, CCCC, UTS 2017- present - Fellow –ESC 2016 –present – Fellow – CSANZ 2015 – 2017 - Director Research Students, Faculty of Health (FOH), UTS 2016 -Acting Associate Dean of Research, (FOH), UTS 2014 – 2016 - Director Research Studies, (FOH), UTS 2014 -2015 -Director Research Studies, (FOH), UTS 2013 – present– Fellow – AHA 2008 – PhD Nursing University of Western Sydney 2004 - BN (Hons) University of Western Sydney Awarded over \$3 million in competitive research funding, including National Health and Medical Research Council, Heart Foundation NSW Cardiovascular Research Network; DOHA & ARC. Author or co-author of 76 peer review articles and five book chapters (H index 11). Dissemination of research findings at international prize sessions in Munich, Germany & US.

Author Summary: Professor Phillip Newton is Professor and Director of the Nursing Research Centre at Western Sydney University and Western Sydney Local Health District. His program of research investigates the impact of frailty on people with chronic heart failure and people referred for solid organ transplantation, and heart failure self-management. He is a senior investigator of the HF Snapshot study, the largest point prevalence study of acute heart failure and clinical variation across institutions in Australia.

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Author Summary: Professor Jane Phillips is a professor of nursing with experience in delivering evidenced-based palliative care across diverse settings, including rural and regional Australia. She has led and evaluated complex health service reforms and has led a number of major cancer and palliative care reform initiatives at the local and national levels. Jane's research aims to improve care outcomes for people in their last year of life by strengthening the nexus between research, policy and practice.

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Professional Experience: My expertise is in mixed methods research which is grounded my qualifications in Nursing, Masters of Public Health and a PhD. My primary research focus and current research projects are in improving care of older vulnerable populations, inclusive of dementia, palliative care, Cardiovascular health and translational research that bridges the gaps between the acute care sector, community and residential aged care.

Author Summary: Dr Louise Hickman's expertise is in mixed methods research which is grounded in qualifications in Nursing, Masters of Public Health and a PhD. A/Professor Hickman's primary research focus and current research projects are in improving care of older vulnerable populations, inclusive of dementia, palliative care, cardiovascular health and translational research that bridges the gaps between the acute care sector, community and residential aged care.