Mindfulness-Based Cognitive Therapy in Managing Depressive Symptoms in Older People: A Non-Randomised Controlled Trial

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Background

Depression is one of the most common yet under-recognized mental disorders in older adults in Hong Kong, and it is estimated that approximately one in 10 older people has clinically significant depression (Sun et al., 2012). With population aging, the number of older people with depression is slated to double in the next two decades, creating a substantial burden on the individuals, caregivers, and health care system. While pharmacological interventions are effective in reducing depression, medical risks can be complicated due to polypharmacy in older people. Non-pharmacological interventions may benefit the population by addressing the underlying dysfunctional cognitive processes associated with depression.

Mindfulness-based interventions, such as mindfulness-based cognitive therapy (MBCT), have the potential in improving psychological health in older people. MBCT is a group intervention originally designed to prevent recurrent depressive disorders (Segal et al., 2012). It combines mindfulness practices and cognitive-behavioural elements to enhance an individual's understanding of the interacting relationships among thoughts, emotions, bodily sensations, and behaviours. Mindfulness practice emphasizes on developing a moment-to-moment, non-judgmental awareness and may be helpful in alleviating depression by directing individual's attention to the present instead of ruminating in the past. Systematic reviews have shown the efficacy of MBCT in reducing depression, anxiety, loneliness, stress, sleep problems, ruminations, general mood, and positive affect (Geiger et al., 2016; Thomas et al., 2020). However, over half of the included studies lacked a control group and mixed findings were observed possibly because of inconsistent modifications to the protocol, methodological flaws, and study limitations.

The application of MBCT in the Chinese older population is understudied. Recently, a randomized controlled trial on MBCT for older people were conducted in Hong Kong. Shih et al. (2021) compared a standard MBCT to an active control group (physical exercise + health education) for older people with depression and revealed that, while both groups showed a reduction in the severity of depressive symptoms, only the MBCT group showed improvement in mindfulness.

With these promising findings, more studies are needed to establish the evidence base for the intervention and inform clinical practice in this population. We aim to explore whether a modified MBCT based on older people's feedback can reduce depressive symptoms and

improve mindfulness. With the growing older people population, there is a need for greater social welfare capacity to promote their well-being, we also examine whether a modified MBCT led by social workers under the supervision of a mindfulness teacher can benefit the population.

Objectives

- To evaluate the effectiveness of MBCT in improving mental health and mindfulness in older people with depressive symptoms as compared to care as usual
- To compare the effectiveness between MBCT led by mindfulness teacher and that led by social workers
- To examine psychological flexibility as a potential mechanism of change

Methods

Design

This is a non-randomised controlled trial with three arms, comparing older people with mild to moderately severe depressive symptoms receiving modified MBCT led by a mindfulness teacher, MBCT led by social workers, and care as usual.

Participants

Participants will be recruited from District Elderly Community Centres (DECC) and Integrated Community Centre for Mental Wellness (ICCMW). We aimed to recruit 32 participants for each arm, totaling 96 participants in the study. They will be included if they are aged (1) 60 years or older, (2) have depressive symptoms of mild level or above, as indicated by scoring 5 or more in PHQ-9, and (3) can give informed consent to participate. The exclusion criteria are (1) known history of autism, intellectual disability, schizophrenia-spectrum disorder, bipolar disorder, Parkinson's disease, or dementia, (2) imminent suicidal risk, and (3) difficulty in communication.

Intervention

The MBCT protocol has been modified according to our pilot test with older people with depressive symptoms and suggestions from existing literature in teaching mindfulness to the older population. It consists of eight 2-hour weekly sessions, but the whole day retreat is excluded. Each session contains guided mindfulness exercises, feedback and discussion,

homework review, and psychoeducation. The programme is conducted in Cantonese and led by either a MBCT teacher who received formal training organized by the Oxford Mindfulness Centre and the Hong Kong Centre for Mindfulness or a social worker supervised by the MBCT teacher. The care as usual group received usual service provided in DECC and ICCMW.

Outcomes

Demographic information will be collected at baseline. All outcome measures will be collected at baseline (T0), 8-week (T1: immediately after the intervention), and 12-week (T2). The questionnaires are self-administered but trained social workers or research assistants will provide support in completing the questionnaire when needed. The questionnaire is expected to last for roughly 30 minutes.

Depressive symptoms will be assessed using the validated Chinese version of the Patient Health Questionnaire (PHQ-9; Wang et al., 2014). The 9-item instrument incorporates depression diagnostic criteria with other leading major depressive symptoms and rates the frequency of the symptoms on a four-point Likert scale ranging from 0 (*not at all*) to 3 (*nearly every day*). PHQ-9 scores of 5-9, 10-14, 15-19, 20 and above represent mild, moderate, moderately severe, and severe depression.

Anxiety symptoms will be assessed adopting the validated Chinese version of the Generalized Anxiety Disorder 7-item scale (GAD-7; Tong et al., 2016). The instrument taps on the most prominent diagnostic features for GAD and rates the frequency of symptoms on a four-point Likert scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). GAD scores of 5, 10, and 15 are taken as the cut off points for mild, moderate, and severe anxiety, respectively.

Stress will be measured by the Chinese validated Perceived Stress Scale (PSS;Ng, 2013). The 10-item instrument measures the degree to which an individual's life situations are perceived as stressful. Respondents rate the frequency of how they felt a certain way during the last month on a Likert scale ranging from 0 (*never*) to 4 (*very often*). Higher scores indicate higher perceived stress.

Mindfulness will be assessed using the Chinese validated Five Facet Mindfulness Questionnaire Short Form (FFMQ-SF; Hou et al., 2014). The 20-item instrument measures

mindfulness by five domains: ‘observe’, ‘describe’, ‘acting with awareness’, ‘non-judging’ and ‘non-reactivity’. Respondents rate how much each statement reflects their lives on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). Higher scores indicate higher mindfulness.

Psychological flexibility will be assessed using the 8-item abbreviated version of the Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT-8; Morris, 2019), which has been translated into Chinese for use in the current study. The instrument measures psychological flexibility by three domains: ‘openness to experience’, ‘valued action’, and ‘behavioural awareness’. Respondents rate the items on a 7-point Likert scale, ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). Higher scores indicate greater psychological flexibility.

Data analysis

Baseline demographic information and outcome measures among the three groups will be compared using independent sample t-test. Mixed ANOVA will be used to compare outcome changes from T0 to T2 among the groups. Post-hoc analyses, such as pairwise comparisons, will be performed to identify groups with significant changes. All results will be reported with appropriate effect sizes, statistical significances, and confidence intervals. If the findings demonstrate intervention effects, a regression model will be conducted to examine whether psychological flexibility (change scores) are associated with lower depressive symptoms post intervention, while controlling for baseline depression.

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