Social worker-led mindfulness-based intervention for managing depressive symptoms in community-dwelling older adults in Hong Kong: A randomised controlled trial

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Background

Mindfulness-based cognitive therapy (MBCT) is a promising approach to managing a series of health and psychological conditions among older adults (Hazlett-Stevens et al., 2019). To increase its acceptability, feasibility, and scalability, MBCT has been adapted and delivered in a variety of formats. Apart from delivering the intervention in-person by a certified mindfulness teacher, MBCT has been adapted to be self-taught (e.g., Crane et al., 2020; Montero-Marin et al., 2021), delivered online (e.g., Dragomanovich et al., 2021), or partially led by social workers (Wang et al., under review).

Preliminary findings from Wang et al. (2024; under review) suggest that a task-shared approach with modified MBCT supported by social workers is effective in producing change in older adults' mental health and mindfulness. Based on this finding, more research is needed to evaluate whether social workers are competent to lead a mindfulness-based intervention (MBI) informed by MBCT on their own and produce effective changes in outcome measures pertaining to mental health.

Furthermore, based on recent focus groups conducted by the investigators, qualitative data provide supporting evidence that incorporating peer supporters into the program is a promising way to improve engagement in MBI. However, whether the inclusion of peer supporters has the potential to enhance intervention outcomes remains unknown.

Peer supporters in mental health, also called "experts by experience" (World Health Organization, 2021, p. 2), are those who have direct lived experience and can exchange practical or emotional support with peers who are going through similar challenges (Mead et al., 2001) in a non-judgmental way (World Health Organisation, 2021). The literature suggests that the effects of incorporating peer support in mental health interventions are mixed.

In an online intervention based on CBT principles designed for older adults with elevated depressive symptoms, peer support has been found to improve engagement and adherence to the intervention (Tomasino et al., 2017). However, in a systematic review and meta-analysis, Smit et al. (2022) found that peer support intervention, as a standalone intervention, has a modest effect in improving clinical (i.e., psychiatric symptoms) and personal recovery (e.g., empowerment, hope) across different patient groups when being compared to a comparison group. Thus, more research is needed to understand the effectiveness of incorporating peer supporters into mental health interventions.

As a follow-up study to Wang et al. (2024, under review), the objectives of the current proposed study are below:

Objectives

- To evaluate the effectiveness of social worker-led MBI in improving depression in older people with mild to moderate depressive symptoms as compared to care as usual (cognitive behavioural therapy and behavioural activation)
- To examine the effectiveness of incorporating peer supporters in social worker-led MBI compared to those without peer supporters
- To identify potential mechanisms of change in MBI for depressive symptoms

Methods

Design

The study will utilise a combination of randomised controlled trial (RCT) and propensity score matching technique to incorporate pragmatic considerations, following consultations with researchers and social workers. Participants will be randomly allocated to either a peer supporter-enhanced social worker-led MBI or a social worker-led MBI. The control group will consist of participants receiving usual care and will be identified from the larger JoyAge project, using propensity score matching that takes into account demographic information, depressive symptoms, and anxiety levels.

Participants

Participants will be recruited from District Elderly Community Centres (DECC) and Integrated Community Centre for Mental Wellness (ICCMW). Based on sample size power calculation, the investigators aim to recruit 69 participants for each arm, totalling 207 participants in the study. Participants 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 to 14 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) current abuse of drugs or alcohol, and (3) difficulty in communication. After participants are allocated to the intervention group, a screening interview will be scheduled. Participants will be further excluded if they have (4) imminent suicidal risk, or (5) if the timing or the training is unsuitable for the participant.

Intervention

The intervention in the current program is in parallel with Wang et al. (2024, under review). However, participants in one of the intervention groups will receive support from peer supporters throughout the study. In addition, to reduce the intensity of the intervention, the current MBI has reduced the number of sessions from eight 2-hour weekly sessions in the modified MBCT to six 2-hour weekly sessions. Each session contains guided mindfulness exercises, feedback and discussion, homework review, and psychoeducation. The programme is conducted in Cantonese and led by social workers who received training from a certified mindfulness teacher. The care as usual group received usual service provided in DECC and ICCMW.

Measures

Demographic information will be collected at baseline. All outcome measures will be collected at baseline (T0), 6 weeks (T1: immediately after the intervention), and 18 weeks (T2; 3 months following intervention) after baseline. 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 60 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 and other leading major depressive symptoms. Participants rate 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 using the validated Chinese version of the Generalized Anxiety Disorder 7-item scale (GAD-7; Tong et al., 2016). The instrument assesses prominent diagnostic features for GAD. Participants rate 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.

Mindfulness will be assessed using the Chinese validated Five Facet Mindfulness Questionnaire (FFMQ-SF; Hou et al., 2013). The 20-item instrument measures mindfulness by five domains: 'observe', 'describe', 'acting with awareness', 'non-judging' and 'non-reactivity'. Participants 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.

Stress will be using a single-item measure (SLS-1; Wong et al., 2021). This item measures participants' subjective levels of stress over the past month. Participants rate the level of stress on a Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). A higher score indicates a higher subjective level of stress.

Health-related quality of life will be assessed using the Chinese version of the EuroQol-5 dimension 5-level version (EQ-5D-5L; Herdman et al., 2011). The measure assesses five dimensions of health, including mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Each dimension is rated on five levels ranging from "no problem" to "extreme problems", which will be transformed into a 5-digit code, with an index score computed. A score closer to 1 indicates better health state. Participants will also indicate their current health condition on a visual analogue scale ranging from 0 (*the worst health you can imagine*) to 100 (*the best health you can imagine*). Higher values on the scale indicate better current health.

General health status will be assessed using one non-comparative and two comparative questions pertaining to health (DeSalvo et al., 2006; Li et al., 2006). The non-comparative question assesses participants' perception of their overall health condition. Participants rate their perceived health status on a Likert scale ranging from 0 (*very good*) to 4 (*very bad*). A higher score indicates poorer health status. The two comparative questions assess participants' perceptions of their health status compared to one year ago and compared to peers with the same age. Participants rate their health status on a Likert scale ranging from 0 (*much better than one year ago/much better than others*) to 4 (*much worse than one year ago/much worse than others*). Higher values on the scale indicate poorer health status.

Self-compassion will be assessed using the Chinese version of the Self-Compassion Scale-Short Form (SCS-SF; Meng et al., 2019). The 12-item scale measures different components of self-compassion including self-kindness, common humanity, mindfulness, self-judgement, isolation, and over-identification. Participants rate the items on a scale ranging from 1 (*almost never*) to 5 (*almost always*). Higher scores indicate higher levels of self-compassion.

Rumination will be assessed using the Chinese version of the Brooding Subscale of the

Ruminative Response Scale (RRS-10 Chinese version; Lei et al., 2017). This 5-item subscale assesses the tendency to make negative evaluations or comparisons. Participants will rate the items on a scale ranging from 1 (*never) to* 4 (*always*). Higher scores indicate greater levels of rumination.

Self-efficacy will be assessed using the 10-item Chinese version of the General Self-Efficacy Scale (C-GSE; Zhang & Schwarzer, 1995). This measure assesses participant's perceived ability to cope with different situations. Participants will rate the items on a scale ranging from 1 (*not at all true*) to 4 (*exactly true*), with higher scores indicating greater self-efficacy.

Resilience will be measured using the 2-item Chinese version of the Connor-Davidson Resilience Scale (CD-RISC2; Ni et al., 2016). This scale measures participants' stress coping ability. Participants will rate items on a scale from 0 (*not true at all*) to 4 (*true nearly all the time*). Higher scores indicate higher resilience.

Expectancy and acceptability ratings of the current MBCT program will be assessed by adapting questions by Hirsch et al. (2021) and Williams et al. (2013). The expectancy question will measure participants' expected usefulness of the program. Participants will rate "how useful do you think this program will be in improving your mental health?" on a five-point scale from 0 (*not at all useful*) to 4 (*very useful*) at baseline (T0). A higher score indicates higher levels of expected usefulness. Acceptability of the program will be measured after program completion (T1). Participants will rate "how useful was this program in improving your mental health?", "how satisfied are you with the program?", and "with what degree of confidence would you recommend this program to other older adults?" on a five-point scale from 0 (*not at all useful/satisfied/confident*) to 4 (*very useful/satisfied/confident*). Greater scores indicate greater acceptability (i.e., usefulness, satisfaction, and confidence) about the program.

Data analysis
To explore group differences, baseline demographic information and outcome measures among the three groups will be compared using ANOVAs. Using an intention-to-treat approach (Fisher et al., 1990), follow-up data will be collected from participants who withdraw from the study. Therefore, all collected data will be included in data analysis. Linear mixed models will be used to compare outcome changes from T0 to T2 among the groups.

References

Baer, R. A., Carmody, J., & Hunsinger, M. (2012). Weekly change in mindfulness and perceived stress in a mindfulness-based stress reduction program. Journal of Clinical Psychology, 68(7), 755–765. https://doi.org/10.1002/jclp.21865

Crane, C., Ganguli, P., Ball, S., Taylor, L., Blakemore, S., Byford, S., Dalgleish, T., Ford, T., Greenberg, M., Kuyken, W., Lord, L., Montero-Marin, J., Sonley, A., Ukoumunne, O. C., & Williams, J. M. G. (2020). Training school teachers to deliver a mindfulness program: Exploring scalability, acceptability, effectiveness, and cost-effectiveness. *Global Advances in Health and Medicine*, *9*, 2164956120964738-2164956120964738. https://doi.org/10.1177/2164956120964738

DeSalvo, K. B., Bloser, N., Reynolds, K., He, J., & Muntner, P. (2006). Mortality prediction with a single general self-rated health question. *Journal of General Internal Medicine*, *21*(3), 267-275. https://doi.org/10.1111/j.1525-1497.2005.00291.x

Dragomanovich, H. M., Dhruva, A., Ekman, E., Schoenbeck, K. L., Kubo, A., Van Blarigan, E. L., Borno, H. T., Esquivel, M., Chee, B., Campanella, M., Philip, E. J., Rettger, J. P., Rosenthal, B., Van Loon, K., Venook, A. P., Boscardin, C., Moran, P., Hecht, F. M., & Atreya, C. E. (2021). *Being present 2.0*: Online mindfulness-based program for metastatic gastrointestinal cancer patients and caregivers. *Global Advances in Health and Medicine*, *10*, 21649561211044693. https://doi.org/10.1177/21649561211044693

Fisher, L. D., Dixon, D. O., Herson, J., Frankowski, R. K., Hearron, M. S., Peace, K. E. (1990). Intention to treat in clinical trials. In Peace, K. E. (Ed.), *Statistical issues in drug research and development*. https://doi.org/10.1201/9780203738610

Hazlett-Stevens, H., Singer, J., & Chong, A. (2019). Mindfulness-based stress reduction and mindfulness-based cognitive therapy with older adults: A qualitative review of randomized controlled outcome research. *Clinical Gerontologist*, *42*(4), 347–358. https://doi.org/10.1080/07317115.2018.1518282

Herdman, M., Gudex, C., Lloyd, A., Janssen, M., Kind, P., Parkin, D., Bonsel, G., & Badia, X. (2011). Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Quality of Life Research*, *20*(10), 1727-1736. https://doi.org/10.1007/s11136-011-9903-x

Hirsch, C. R., Krahé, C., Whyte, J., Krzyzanowski, H., Meeten, F., Norton, S., & Mathews, A. (2021). Internet-delivered interpretation training reduces worry and anxiety in individuals with generalized anxiety disorder: A randomized controlled experiment. *Journal of Consulting and Clinical Psychology*, 89(7), 575–589.

https://doi.org/10.1037/ccp0000660

Hou, J., Wong, S. Y.-S., Lo, H. H.-M., Mak, W. W.-S., & Ma, H. S.-W. (2014). Validation of a Chinese Version of the Five Facet Mindfulness Questionnaire in Hong Kong and Development of a Short Form. *Assessment*, 21(3), 363-371. https://doi.org/10.1177/1073191113485121

Li, Z. B., Lam, T. H., Ho, S. Y., Chan, W. M., Ho, K. S., Li, M. P., Leung, G. M., & Fielding, R. (2006). Age- versus time-comparative self-rated health in Hong Kong Chinese older adults. *International Journal of Geriatric Psychiatry*, *21*(8), 729–739. https://doi.org/10.1002/gps.1553

Lei, X., Zhong, M., Liu, Y., Xi, C., Ling, Y., Zhu, X., Yao, S., & Yi, J. (2017). Psychometric properties of the 10-item ruminative response scale in Chinese university students. *BMC Psychiatry*, *17*(1), 152-152. https://doi.org/10.1186/s12888-017-1318-y

Mead, S., Hilton, D., & Curtis, L. (2001). Peer support: A theoretical perspective. *Psychiatric Rehabilitation Journal*, *25*(2), 134-141. https://doi.org/10.1037/h0095032

Meng, R., Yu, Y., Chai, S., Luo, X., Gong, B., Liu, B., Hu, Y., Luo, Y., & Yu, C. (2019). Examining psychometric properties and measurement invariance of a Chinese version of the self-compassion scale - short form (SCS-SF) in nursing students and medical workers. *Psychology Research and Behaviour Management*, *12*, 793-809. https://doi.org/10.2147/PRBM.S216411

Montero-Marin, J., Taylor, L., Crane, C., Greenberg, M. T., Ford, T. J., Williams, J. M. G., García-Campayo, J., Sonley, A., Lord, L., Dalgleish, T., Blakemore, S. J., MYRIAD team, & Kuyken, W. (2021). Teachers "Finding Peace in a Frantic World": An Experimental Study of Self-Taught and Instructor-Led Mindfulness Program Formats on Acceptability, Effectiveness, and Mechanisms. *Journal of Educational Psychology*, *113*(8), 1689–1708. https://doi.org/10.1037/edu0000542

Ni, M. Y., Li, T. K., Yu, N. X., Pang, H., Chan, B. H. Y., Leung, G. M., & Stewart, S. M. (2016). Normative data and psychometric properties of the Connor-Davidson resilience scale (CD-RISC) and the abbreviated version (CD-RISC2) among the general population in Hong Kong. *Quality of Life Research*, *25*(1), 111-116. https://doi.org/10.1007/s11136-015-1072-x

Smit, D., Miguel, C., Vrijsen, J. N., Groeneweg, B., Spijker, J., & Cuijpers, P. (2023). The effectiveness of peer support for individuals with mental illness: systematic review and meta-analysis. *Psychological medicine*, *53*(11), 5332–5341. https://doi.org/10.1017/S0033291722002422

Tomasino, K. N., Lattie, E. G., Ho, J., Palac, H. L., Kaiser, S. M., & Mohr, D. C. (2017). Harnessing peer support in an online intervention for older adults with depression. *The American Journal of Geriatric Psychiatry*, *25*(10), 1109-1119. https://doi.org/10.1016/j.jagp.2017.04.015

Tong, X., An, D., McGonigal, A., Park, S., & Zhou, D. (2016). Validation of the generalized anxiety disorder-7 (GAD-7) among Chinese people with epilepsy. *Epilepsy Research*, 120, 31-36. https://doi.org/10.1016/j.eplepsyres.2015.11.019

Wang, W., Bian, Q., Zhao, Y., Li, X., Wang, W., Du, J., Zhang, G., Zhou, Q., & Zhao, M. (2014). Reliability and validity of the Chinese version of the Patient Health Questionnaire (PHQ-9) in the general population. *General Hospital Psychiatry*, *36*(5), 539–544. https://doi.org/10.1016/j.genhosppsych.2014.05.021

Wang, Y. H., Wang, Y. L., Leung, D. K. Y., Ng, Z. L. Y., Chan, O. L. H., Wong, Wong, S. M. Y., Chan, R. C. L., Liu, T., Wong, G. H. Y., & Lum, T. Y. S. (2024). Effectiveness of an age-modified mindfulness-based cognitive therapy (MBCT) in improving mental health in older people with depressive symptoms: A non-randomised controlled trial. [Manuscript submitted for publication].

Williams, A. D., Blackwell, S. E., Holmes, E. A., & Andrews, G. (2013). Positive imagery cognitive bias modification (CBM) and internet-based cognitive behavioural therapy (iCBT) versus control CBM and iCBT for depression: Study protocol for a parallel-group randomised controlled trial. *British Medical Journal Open*, 3, e004049. http://dx.doi.org/10.1136/bmjopen-2013-004049

Wong, S. M. Y., Lam, B. Y. H., Wong, C. S. M., Lee, H. P. Y., Wong, G. H. Y., Lui, S. S. Y., Chan, K. T., Wong, M. T. H., Chan, S. K. W., Chang, W. C., Lee, E. H. M., Suen, Y. N., Hui, C. L. M., & Chen, E. Y. H. (2021). Measuring subjective stress among young people in Hong Kong: Validation and predictive utility of the single-item subjective level of stress (SLS-1) in epidemiological and longitudinal community samples. *Epidemiology and Psychiatric Sciences*, *30*, e61. https://doi.org/10.1017/S2045796021000445

World Health Organization, Guidance and technical packages on community mental health services: promoting person-centred and rights-based approaches. (2021). *Peer support mental health services: Promoting person-centred and rights-based approaches*. Retrieved from: https://www.who.int/publications/i/item/guidance-and-technical-packages-on-community-mental-health-services.

Zhang, J. X., & Schwarzer, R. (1995). Measuring optimistic self-beliefs: A Chinese

adaptation of the General Self-Efficacy Scale. *Psychologia: An International Journal of Psychology in the Orient*, *38*(3), 174–181.