

Supplementary table 1: Randomised controlled trials included in the Living Systematic Review of cognitive and/or behavioural interventions for loneliness or depression

Study	Population	Intervention	Loneliness and depression outcomes
Gilbody-BASIL 2021 [1]	Older adults (65 years or over) with two or more physical long-term conditions (LTCs) on primary care registers in two general practices in the North East of England. Participants included those subject to English Government guidelines regarding COVID-19 self-isolation, social distancing and shielding as relevant to their health conditions and age. N=96	Behavioural activation delivered over telephone by support workers (after two days training). The main adaptation was the use of telephone delivery, and the use of functional equivalence to maintain social interactions.	Loneliness: De Jong Gierveld Scale - 11 items loneliness scale Depression: Patient Health Questionnaire-9 item (PHQ-9)
Choi Pepin 2021 [2, 3]	Older adults (aged 50+ and 60+) in receipt of home delivered meals. Cognitively intact and no substance abuse. Self report of feeling lonely and ≥ 6 of the possible score range of 3-9 on the 3-item UCLA Loneliness Scale). N=89	Tele-BA: a brief, structured behavioural approach that aims to increase and reinforce wellness promoting behaviours (e.g., engaging in meaningful life activities aligned with personal values) and to decrease depressive behaviours. Tele-BA had five sessions	Loneliness: 8-item Patient-Reported Outcomes Measurement Information System Social Isolation Scale (PROMIS-L) Depression: Patient Health Questionnaire-9 item (PHQ-9)
Kall 2020, [4] [5]	Aged 18 years and above, experience suffering as a result of loneliness (as assessed by the participant), score above the reported mean of 40 on the UCLA-LS-3, able to speak, read and write Swedish, have access to a computer with an internet connection, and, if taking psychopharmaceutic medication, remain on a stable dose for the duration of the study. Psychiatric comorbidity was allowed as long as the participant reported that loneliness was their primary concern	Internet CBT: Internet-Based Cognitive Behaviour Therapy for Loneliness over 8 weeks Delivered by final-year students enrolled at the 5-year clinical psychologist programme; all students had at least 18 months of prior theoretical and practical experience of	Loneliness: UCLA-LS-3 Depression: Patient Health Questionnaire-9 item (PHQ-9)

	N=73	CBT and received group supervision by two licensed psychologists during both the assessment and treatment phase	
Kall 2021 [6]	Aged 18 years and above, experience suffering as a result of loneliness (as assessed by the participant), score above the reported mean of 40 on the UCLA-LS-3, able to speak, read and write Swedish, have access to a computer with an internet connection, and, if taking psychopharmaceutical medication, remain on a stable dose for the duration of the study. Psychiatric comorbidity was allowed as long as the participant reported that loneliness was their primary concern N= 170	Internet CBT: Internet-Based Cognitive Behaviour Therapy for Loneliness over 8 weeks Delivered by final-year students enrolled at the 5-year clinical psychologist programme; all students had at least 18 months of prior theoretical and practical experience of CBT and received group supervision by two licensed psychologists during both the assessment and treatment phase	Loneliness: UCLA Loneliness Scale Depression: Patient Health Questionnaire-9 item (PHQ-9)
Soucy 2019 [7]	Aged 18-65 years, with mild to moderate depressive symptoms evaluated using the 'Mini International Neuropsychiatric Interview (M.I.N.I) and the Patient Health Questionnaire (PHQ-9) N=56	Behavioural Activation for depression Individuals to re-engage in activities considered enjoyable, promote feelings of pleasure and accomplishment. Participants provided with self-help BA manual and complete exercises. Interventionist called participants once every two weeks to use behaviour change techniques (e.g. problem	Loneliness: Laval university loneliness scale Depression: Patient Health Questionnaire-9 item (PHQ-9)

		solving and goal setting)	
Williams 2004 [8]	Young adults (Navy recruits) attending Boot Camp Survival Training, at risk of depression (18 and above on the Beck Depression Inventory or 30 and above on the Perceived Stress Scale) N=801	CBT (BOOTSTRAP) using the strategies for coping, sense of belonging, decreasing thought distortions, and stress management. Encouraged participants to gain a sense of belonging through positive interactions with ship mates.	Loneliness: UCLA Loneliness Scale (20 item) Depression: Beck Depression Inventory-II
Zhang 2018 [9]	Chinese higher education students, aged 17-25 years, elevated loneliness (one SD above mean population score), meditation naive, not taking psychiatric medication or receiving psychotherapy N=59	Mindfulness based CBT: Taught theories, practiced mindfulness exercises, and discussed home practice. Based on the MBCT manual, substituting depression for loneliness	Loneliness: Indigenous loneliness scale Depression: not measured
Cohen-Mansfield 2018 [10]	Aged 65 and above, feeling lonely (moderate level and above) and frequency (several times per week and above) of loneliness, not participating in social activities and expressing at least moderate desire to have additional company, able to participate based on cognitive function (>22 on Mini Mental State Examination), and no significant depression (Geriatric Depression Scale) N=68 randomised	CBT: Face-to-face individual and/or group sessions Individual sessions to identify and address individual personal barriers to social integration, discussion for social contacts and techniques, and use of local resources. Group sessions involved social skills practice and discussion on addressing barriers.	Loneliness: UCLA-8 loneliness scale Depression: not measured
Cresswell 2012 [11]	Healthy older adult (aged 55-85 years), English-speaking, not currently participating in mind-body (e.g. meditation, yoga) more than once per week, non-smoker, mentally and physically	Mindfulness CBT for loneliness: Face-to-face group. Trained mindfulness clinicians lead group sessions. All	Loneliness: UCLA-R Loneliness Scale (20 item) Depression: not measured

	healthy for past three months, and not taking medications that affect immune, cardiovascular, endocrine, or psychiatric functioning N=40	maintained a daily mindfulness meditation practice	
Jarvis 2019 [12]	Older adults aged 60 years and above, willing to participate, cognitively intact on the Subjective Memory Complaint Clinical (SMCC), and either socially isolated (15 or above on the Friendship Scale), lonely (2-6 on the de Jong Gierveld Loneliness Scale (DJGLS)) or with decreased mental wellbeing (13 or below on the World Health Organization-Five Wellbeing Index (WHO-5)). N=32	CBT: Living in Network Connected Communities (mLINCC) CBT intervention to reduce loneliness. Face-to-face group and individual sessions, and smartphone message via WhatsApp from CBT specialists.	Loneliness: De Jong Gierveld Loneliness scale Depression: World Health Organisation-Five Wellbeing Index (WHO-5)
Theeke 2016 [13]	Aged 65 years or older, minimum loneliness score of 40 (revised 20-item UCLA Loneliness scale), living in the community, diagnosed with at least one chronic illness, and voluntarily signed an informed consent form N=27	CBT LISTEN intervention over 5 weeks. A cognitive restructuring intervention for loneliness Taught sessions and writing activities on belonging, relationships, role in community, loneliness as a health challenge, and meaning of loneliness. Plus homework sessions. Face-to-face group intervention.	Loneliness: UCLA Loneliness Scale (20 item) Depression: Geriatric Depression Scale (GDS)
Almeida 2022 [14]	Nursing home residents in Australia aged 60 years or over; reporting symptoms of low mood or hopelessness, or lack of interest or pleasure in usual activities. They also had to score 5 or more on the Patient Health Questionnaire (PHQ-9). Participants scored 18 or more on the Mini-Mental State Examination (MMSE), be able to communicate effectively in English, and have capacity to provide informed consent. N=188	Behavioural Activation modified for nursing home residents: Package consisted of 5 to 7 modules comprising (1) understanding anxiety and depression, (2) anxiety and depression in older people, (3) promoting good mental health of older adults in the community, (4)	Loneliness: De Jong Gierveld Scale - 11 items loneliness scale Depression: Patient Health Questionnaire-9 item (PHQ-9)

		<p>promoting good mental health of aged care residents, (5) identifying and responding to suicidal ideation in aged care settings, (6) managing anxiety and depression of aged care residents, (7) looking after own mental health at work. Each module took about 25 minutes to complete</p>	
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