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Geriatric Disorders (D Steffens and K Zdanys, Section Editors)

Psychosocial Treatment Options for Major Depressive Disorder in Older Adults

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Opinion statement

Late-life depression (LLD) is a public health concern with deleterious effects on overall health, cognition, quality of life, and mortality. Although LLD is relatively common, it is not a normal part of aging and is often under-recognized in older adults. However, psychotherapy is an effective treatment for LLD that aligns with many patients' preferences and can improve health and functioning. This review synthesized the current literature on evidence-based psychotherapies for the treatment of depression in older adults. Findings suggest that active, skills-based psychotherapies (cognitive behavioral therapy [CBT] and problem-solving therapy [PST]) may be more effective for LLD than non-directive, supportive counseling. PST may be particularly relevant for offsetting skill deficit associated with LLD, such as in instances of cognitive impairment (especially executive dysfunction) and disability. Emerging treatments also consider contextual factors to improve treatment delivery, such as personalized care, access, and poverty. Tele-mental health represents one such exciting new way of improving access and uptake of treatment by older adults. Although these strategies hold promise, further investigation via randomized controlled trials and comparative effectiveness are necessary to advance our treatment of LLD. Priority should be given to recruiting and training the geriatric mental health workforce to deliver evidence-based psychosocial interventions for LLD.

Introduction

Changing life circumstances and aging-related processes place older adults at unique risk of encountering factors that contribute to late-life depression (LLD), including chronic disease, disability and frailty, caregiving demands, experiences related to grief and loss, and cognitive impairment. In addition to the personal impact of

depression, this condition also confers an economic burden, as it is associated with increased overall health service utilization and healthcare expenditure among older adults [1]. Although depression is not a normal aspect of aging, LLD is relatively common. Prevalence data range depending on diagnostic severity (e.g., diagnosis of major depressive disorder [MDD] versus depressive symptomatology); US national representative estimates of the 12-month prevalence of MDD for adults aged 55 and older are between 4 [2] and 5.63% [3] and that for any mood disorder at 4.9 [2]–6.77% [3]. These estimates may be conservative due in part to methodological and diagnostic issues [2, 4]. While the DSM-5 criteria are the same for MDD in older and younger patients, the clinical presentation may differ, with older adults endorsing more somatic symptoms and less mood complaints [5]. LLD may be more chronic than presentation in younger adults and is often associated with or exacerbated by chronic physical health conditions, cognitive impairment, and dementia [6•]. As such, LLD often goes unrecognized and undertreated.

When treating depression in older adults, it is essential to identify co-occurring medical conditions that may be contributing to mood symptoms or complicate its treatment. Psychiatric treatment guidelines recommend psychotherapy and/or pharmacotherapy for initial treatment of individuals with MDD [7•]. However, treatment with antidepressant medication may be problematic, as nonadherence is common among older adults for myriad reasons including polypharmacy, cost, and beliefs about medication [8]. A recent meta-analysis found that cognitive impairment (particularly executive dysfunction) is associated with poor antidepressant treatment response in LLD [9]. Furthermore, mounting evidence suggests a greater patient preference for psychological treatment compared to medication [10].

A recent systematic review and meta-analysis [11] confirmed that psychotherapy is an effective treatment for late-life depression. Magnitudes of effect vary by type of control group, with large effects in comparison to waitlist and attention controls, and small-to-moderate effects compared to treatment-as-usual and non-specific supportive therapy. Given the deleterious effect of LLD on psychological well-being, physical health, and quality of life, it is imperative to broaden access to care and deliver effective, evidence-based treatment for LLD among a growing, diverse aging population. This paper summarizes the evidence base for psychosocial treatments of LLD and reports the most recent findings. The review focuses on the psychotherapies with the strongest evidence base and discusses emerging trends and future directions in the literature.

Psychosocial treatments

Cognitive behavior therapy

Cognitive behavior therapy (CBT) is one of the most rigorously tested psychosocial treatments for depression across the lifespan, with consistent evidence as efficacious for late-life depression. This treatment approach, as pioneered by Beck [12] and Ellis [13], posits that maladaptive cognitions precipitate and maintains depression and other forms of emotional distress. Specifically, depression results from a triad of negative views about oneself, one's future, and the world. Thus, this structured treatment actively engages older adults to identify and modify, or "restructure," their maladaptive cognitions while also incorporating behavioral components namely behavioral activation, relaxation training, and skill rehearsal. Treatment may be relatively brief in duration, ranging from 12 to 16 sessions. CBT for older adults may be modified to include gerontologically relevant elements such as physical and cognitive changes, cohort beliefs, losses, and role transitions, and there are multiple resources to inform CBT practice with older adults [14, 15].

Meta-analyses typically find that CBT yields large effects on depression in older adult samples compared to non-active (e.g., waitlist) controls [16, 17], although weaker effects have been found when comparing CBT to

other active treatment comparison groups, and among studies of depressed older adults with physical illness or cognitive impairment [16]. Age-relevant settings such as the US Department of Veterans Affairs classify CBT as an evidence-based practice and emphasize clinical training and implantation of this treatment [18]. Given the extensive literature base supporting the clinical dissemination of CBT, recent research has demonstrated interest in emerging trends of improving access to CBT among older adults and addressing concomitant cognitive deficits associated with depression. For example, Scogin et al. [19] augmented CBT with memory training in an attempt to ameliorate deficits in encoding strategies; although CBT was effective at reducing depressive symptoms in this study, the additional training did not produce cognitive effects. However, depression is more often associated with executive dysfunction than memory deficits; as such, Goodkind and colleagues [20•] used neuropsychological assessment to investigate cognitive outcomes of psychotherapy. Among depressed older adults, worse executive function at baseline predicted better treatment response to CBT. Findings suggest that CBT, and likely other structured therapies that teach cognitive techniques for improving psychiatric symptoms, may be especially beneficial in LLD for those with executive dysfunction.

Low-intensity CBT interventions for older adults with depression have received increasing attention. One such study in Australian adults over the age of 60 demonstrated efficacy of self-guided internet-based CBT compared to clinician-guided treatment, noting large clinical improvements in symptoms of depression [21] and cost effectiveness [22]. A low-intensity peer-facilitated workbook-based CBT intervention in older adults has demonstrated preliminary efficacy for reducing depressive symptoms in older adults [23]. However, these recent works have tended to focus on depressive symptoms, rather than frank clinical presentation of MDD, in older adults. Much of this work is still in its infancy of demonstrating feasibility and preliminary efficacy; further work is needed to demonstrate non-inferiority of novel treatments with traditional care and develop scalable implementation strategies.

Behavior therapy

The core principle of behavioral treatments (BT) for depression hinges on Lewinsohn's [24] model which posited that as depressed individuals lose contact with meaningful and rewarding activities, they eventually find fewer activities pleasant and increasingly disengage, thereby reducing positive reinforcement, effectively precipitating and maintaining a depressed state. BT is related to CBT and focused on assisting patients to see the connection between mood and daily activities via self-monitoring and activity scheduling. As depressed individuals learn how to confront avoidance and engage in more positive interactions with their environment, their depressive symptoms remit and quality of life improves. Contemporary BT centers on behavioral activation (BA [25]) and includes contingency management and social skills training. BA may be particularly relevant to older adults, as later life is associated with changes and losses, including transition of occupation and social roles; navigating changing family roles and

caregiving; grief related to death, loss, and physical decline; and reduced functioning. Therefore, targeting engagement in rewarding and purposeful activities is pertinent to these very transitions older adults are navigating. There is recent meta-analytic support for BA for depression in adults [26]; however, few studies have implemented BA among older adults with major depressive disorder. Recently, Egede et al. [27••] conducted an open non-inferiority trial of telemedicine and in-person BA for older Veterans meeting diagnostic criteria for MDD. Both treatment modalities resulted in large, meaningful effects in depression symptom reduction and remission, and telemedicine was judged not inferior to in-person treatment.

Other "third wave" behavior therapies, such as acceptance and commitment therapy (ACT [28]), have generated increased interest as treatments for depression across the lifespan, with applicability for LLD. ACT is a behavioral approach based on relational frame theory [29] that emphasizes acceptance of events that are beyond one's control—in the context of LLD, this may include chronic or terminal illness, pain and disability, and grief and loss. A preliminary trial of ACT among long-term care residents suggested acceptability and preliminary efficacy on depressive symptoms [30]. However, participants had elevated depressive symptoms rather than diagnosed MDD. As with BA, future directions necessitate establishing the efficacy and effectiveness of ACT or other third wave therapies with large scale clinical trials.

Problem-solving therapy

Originally introduced in 1971 by D'Zurilla and Goldfried [31], problem-solving therapy (PST) aims to reduce psychopathology and maximize quality of life by developing constructive problem-solving skills for more effective coping. PST is based on the premise that depression is maintained by ineffective problem-solving and the resultant poor coping, low self-efficacy, and negative emotions. The PST therapist teaches effective ways of addressing problems while maximizing well-being by utilizing a 7-step approach, encompassing (1) selecting a specific problem and defining it in concrete terms; (2) selecting a goal that is feasible to reach between sessions, (3) identifying different ways to reach that goal, (4) evaluating each solution based on the likelihood that the patient can actually implement it, (5) choosing the best solution, (6) creating a plan to implement the solution, and (7) circling back around to ascertain the effectiveness of the solution. While PST shares some similarities with CBT and BT, it focuses on ineffective problem solving rather than maladaptive cognitions or lack of activity. To date, PST is the only psychotherapy for late-life depression that has demonstrated efficacy relative to a supportive therapy control [32] as well as CBT among medically ill older adults [33].

Although it has demonstrated efficacy across the lifespan, PST is particularly effective and relevant for issues of late-life depression [34•]. Recent meta-analysis of PST interventions for LLD suggested that PST may be more effective for treatment of LLD than depression in younger populations [35]. PST treatment can address skill deficit in the context of age-related issues including disability, executive dysfunction, and cognitive impairment. Due in part to the treatment's structured approach of teaching straightforward,

discrete steps for solving real problems, PST has an established record of treating LLD among individuals with comorbid mild cognitive impairment, particularly among those with deficits in executive function, with very large effect sizes (e.g., number needed to treat [NNT] = 4). While there is preliminary evidence of improved executive functioning associated with reduction in depression, there is no evidence of superiority of PST on other cognitive outcomes [36].

With regard to access, one of the most effective way to increase older adult participation in psychotherapy is through collaborative care approaches and integration into primary care [6•]. Perhaps the most widely recognized and cited collaborative care mode is IMPACT [37], in which care managers worked with supervising mental health specialists to deliver psychiatric services, including PST, to depressed older adults in primary care. The IMPACT trial showcased the effectiveness of PST in the context of collaborative care [38]. At the time of this writing, a trial is underway (GermanIMPACT [39]) to investigate and replicate IMPACT in German primary care context for adults 60 and older with depressive symptoms consistent with a unipolar mood disorder.

In addition to collaborative care, PST has been investigated in the context of home-based treatment. The Program to Encourage Active, Rewarding Lives for Seniors (PEARLS [40]) trained social service workers to deliver PST to depressed adults over the age of 60. Promising new work by Kiosses and colleagues [41] presented a modified, home-delivered PST intervention for older adults with LLD, cognitive impairment, and disability. Named problem adaptation therapy (PATH), this approach supplements PST with age-relevant compensatory and environmental strategies, emphasis on emotion regulation, and caregiver involvement in treatment. Future work is needed to reduce depression and disability in this vulnerable population, who has not been adequately investigated in existing psychosocial interventions.

New research in PST has also extended its efficacy for LLD to a specific symptom of depression: suicidal ideation. Given the interconnectedness of depression, hopelessness, and wishes to die, problem-solving skills may also reduce suicidal ideation among depressed older adults by generating alternatives to what may feel like hopeless, unsolvable problems. Recent trials have supported the role of PST at increasing hopefulness and attenuating suicidal ideation. For example, Choi and colleagues [42] offer preliminary support for telehealth PST at reducing suicidal ideation among homebound older adults. PST was more effective than supportive therapy at reducing suicidal ideation in older adults with both executive dysfunction and MDD [43].

Interpersonal psychotherapy

Interpersonal psychotherapy (IPT) was developed by Klerman, Weissman, and colleagues [44] and draws on psychodynamic theory to focus on interpersonal causes of depression. Like CBT and PST, treatment is typically time-limited (e.g., 12–16 weeks). IPT is structured into three phases: (1) the initial phase, in which a psychoeducation about depression is reviewed, recent interpersonal issues are identified, and treatment goals are collaboratively outlined; (2) the intermediate phase, in which individual works to

address one or two interpersonal problems, which may focus on role transitions, issues of grief and loss, interpersonal deficits, or interpersonal conflicts; and (3) the termination phase of treatment, in which treatment success is reviewed. The IPT protocol has been expanded upon for use with older adults with depression [45]. Unlike other psychotherapies, IPT frames depression as a medical illness, which may appeal to older cohorts who perceive depression and its treatment as stigmatizing. Furthermore, IPT is well-positioned to address the interpersonal and grief-related issues, such as complicated bereavement, common in aging. Like the other structured, brief treatments reviewed herein, IPT has demonstrated efficacy in the treatment of depression. Meta-analytic findings of IPT for adults demonstrated moderate-to-large effects for acute depression compared to nonnative control groups, efficacy comparable to other psychological treatments or pharmacotherapy [46]. However, only one trial of IPT for LLD [47] was included in this review. Despite the dearth of literature on IPT for depression in older adults, promising recent findings include a pilot examination of IPT's role in reducing suicidal ideation in depressed older adults [48]. Thus, although IPT has a strong evidence base for depression in adults, little is known about its effectiveness as a stand-alone treatment for LLD. Further investigation of IPT in older adults would inform interventions for LLD that explicitly leverage social capacities in a developmental context.

Reminiscence therapy and life review

Reminiscence therapy is a term encompassing a variety of approaches that entail review of one's past experiences. While reminisce may include unstructured storytelling, life-review therapy is more structured and typically focuses on a therapeutic process of promoting a positive view of one's past among older adults with depression [49]. Such treatment tends to be brief (e.g., 6–8 sessions) and in addition to LLD may be used more broadly for end-of-life, life satisfaction, and social integration. Meta-analytic findings suggest that reminiscence produces small to moderate effects on depressive symptoms and may be appropriate to LLD in the context of chronic physical illness [49]. Evidence from a recent systematic review synthesized three trials of life review therapy among frail older adults; all trials demonstrated large clinical effects of treatment on depressive symptoms in international samples (Spain [50], Switzerland [51], and Taiwan [52]). However, the trials to date have not used confirmed diagnoses of depression (rather, symptoms of depression) and entailed comparison of a nonactive control condition that did not receive an active psychological treatment; thus, it is not clear how this type of treatment compares to other psychological approaches for LLD, and results may be explained by regression to the mean.

Emerging treatments and future directions

There is no doubt that psychosocial treatments are effective treatment approaches for older adults with depression, and the extant literature suggests that these interventions tend to be treatments of choice for most older adults [53–55]. Unfortunately, older adults face serious challenges accessing

psychosocial interventions [56], and when they do, there is little guidance as to which intervention should be the best fit [57]. Additionally, many clinicians who offer psychosocial treatments are not trained in the evidence-based treatment described above. Indeed, a recent Institute of Medicine (IOM) report highlights the challenges faced in the delivery of high-quality psychosocial interventions, including the poor preparation clinicians receive while in training and the lack of system-level supports and incentives to ensure clinicians continue to deliver these evidence-based practices [58]. Finally, in our experience working with low-income older adults, environment is a critical factor driving depression, yet most interventions are not designed to address the environmental contribution to depression [59].

Access to psychosocial interventions

The most common barriers to utilization of psychological services among older adults are affordability of care, difficulty traveling, and lack of transportation [53]. Although the PEARLS program mentioned herein is designed to deliver in-home care, clinician travel to people's home is not a reimbursable activity. Recently, researchers have been studying the use of technology to facilitate access to this care. Emerging work has demonstrated the feasibility of internet-delivered CBT among Australian older adults with elevated depressive symptoms [60] and shown that tele-PST was well-accepted and efficacious for depression among low-income homebound adults [61]. However, the latter study focused on a "young old" population (50 to 64 years old). As reviewed herein, recent work by Egede and colleagues [27••] has supported the noninferiority of telemedicine using BA for LLD. Related to the growing interest in internet-based treatment delivery, there is a growing interest in novel use of mobile technology for depression treatment, such as mental health apps for smartphones. Although no studies to date have demonstrated the efficacy of apps on LLD, trials are underway to change the current models of face-to-face psychotherapy. Apps have the potential to play an important role in the future of psychological service delivery. Similarly, therapeutic videogames are of interest, but neither technology has been investigated in clinical trials. Given the large proportion of older adults who use the internet and smartphone technology, there is a general paradigm shift toward tele-mental health as acceptable and efficacious, with the power to improve access.

Personalized care

Selectively targeting treatment based on mechanisms of change may improve treatment response. The personalized treatment approach is beginning to bear fruit in regard to LLD. As we discussed above under our review of PST, decades of research have demonstrated that deficits in the cognitive control network are associated with poor response to selective serotonin reuptake inhibitor (SSRI) medications, but PST seems uniquely suited to this variant of late-life depression. In a study interrogating the role that cognitive deficits play in CBT, investigators including Gallagher-Thompson discovered that pretreatment deficits in cognitive flexibility appear to be associated with better outcomes (20). We have recently been funded to study the impact of a stepped behavioral intervention, called Engage, on LLD. This intervention

was developed using patient-centered and clinician-centered design, as well as recent information regarding reward-seeking and processing in LLD [62, 63]. Preliminary data suggests that not only is this intervention easy for clinicians and patients to use, but may be more effective than PST [62]. The role of cognitive processing variables, particularly executive function, has garnered increased attention as moderators of treatment effects. While in-depth discussion of LLD and cognitive impairment (especially dementia) is beyond the scope of this review, LLD has been implicated with deficits in executive functioning, processing speed, and psychomotor speed. To date, all randomized controlled trials (RCTs) for LLD and cognitive deficits have involved a PST approach. More work is needed to ascertain treatment targets for the relationship between mood and cognitive impairment. The interested reader is directed to recent comprehensive reviews of LLD and cognitive impairment in older adults [64–67]. Further investigation of cognitive, neurological, and other mechanisms of treatment response are warranted to develop new, personalized treatments and to enhance clinical decision-making.

Clinician training

Despite numerous policy reports on the need to build the geriatric mental health workforce [68–72], we still have a deficit of clinicians prepared to delivery high-quality psychosocial interventions in general [73] and specifically for depression in late life [74]. The HRSA Geriatric Workforce Enhancement Program is designed to specifically train clinicians in working with older adults and includes training of nurses, psychologists, and social workers (http://bhpr.hrsa.gov/grants/geriatricsalliedhealth/gwep.html). Newly awarded programs are focusing on training in the evidence-based practices detailed in this paper. What will be needed, beyond training, is the development of quality measures post training, to ensure these interventions continue to be deployed in the field. As is discussed at length in the IOM report on standards for psychosocial interventions, quality measures not only of clinician behavior, but system-level support to provide evidence-based care is sorely needed. Systems supports include access to experts or peer mentoring to trouble-shoot when clinicians face a challenge implementing an evidence-based practice and technology-based decision-making tools to help clinicians adapt evidence-based treatments for individual patients [75].

Poverty

Low-income older adults tend to have poor response to antidepressants, even when combined with psychotherapy [76]. We speculate that the reason for poor response to medications is that these treatments do not address the drivers of depression in the context of poverty. When people are faced with a daily struggle to find food, shelter, safety from harm, and medical care, we hypothesize that a stress reaction takes place that creates a syndrome similar to major depression in presentation [59]. Our group has taken the lead on two trials to ascertain the relative merit of clinical case management on depression in low-income older adults. Clinical case management is an advocacy-based intervention that addresses older adult

distress by assisting with linkage to social and medical services, stable and safe housing, and other needs. We have found in two large scale RCTs that clinical case management is a highly successful intervention for LLD in the context of poverty and that the additional of CBT [77], or PST [78••, 79••] produced no added benefit.

Conclusions

In summary, many of the same psychotherapies with evidence for treating depression in the general adult population demonstrate efficacy for LLD. Direct comparisons of psychological interventions suggest that active, skills-based psychotherapies (CBT and PST) may be more effective for LLD than non-directive, supportive counseling [80]. More RCTs comparing interventions with active controls are necessary before drawing firm conclusions about targeting treatment in LLD.

Regardless of modality, psychological treatments are most effective when they incorporate patient preferences and goals. Clinical decisions should be made in collaboration with the patient and utilize a multimodal, biopsychosocial approach to address concomitant physical, cognitive, and neurological disorders while also appreciating sociocultural factors. At present, older adults with LLD utilize psychotherapy at low rates and the geriatric workforce is ill equipped to manage the "silver tsunami" [70] of aging adults. As such, increased attention is needed to develop and implement effective, scalable, and accessible interventions to reduce the morbidity of LLD and improve the quality of life of older adults.

Compliance with Ethical Standards

Conflict of Interest

Dr. Renn has nothing to disclose.

Dr. Areán's research is funded by NIMH and United Health Care. Dr. Areán is also a member of the American Psychological Association Advisory Board for Treatment Guidelines and also works with the UW AIMS Center, designing educational programs to train care managers in evidence-based psychotherapy, including problem solving treatment, behavioral activation, cognitive processing therapy, and cognitive behavioral therapy for anxiety and insomnia.

Human and Animal Rights and Informed Consent

This article does not contain any studies with animal subjects performed by any of the authors. All reported studies with human subjects performed by the authors have been previously published and complied with all applicable ethical standards (including the Helsinki declaration and its amendments, institutional/national research committee standards, and international/national/institutional guidelines).

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