

Managing Geriatric Patients with Depression, Cognitive Change, and Culture/Sexuality Differences: Evidence-Based Assessment, Treatment, Models of Care and Telehealth Innovations

Donald M. Hilty^{1*}, Andreea L. Seritan², Tammy Duong³, Peter J. Ureste³, Laura A. Mosqueda⁴

¹Department of Psychiatry & Behavioral Sciences Keck School of Medicine at USC and LAC+USC Medical Center USA.

²University of California, Davis School of Medicine & Health System. USA

³Department of Psychiatry & Behavioral Sciences LAC+USC Medical Center and Keck School of Medicine at USC

⁴Department of Family Medicine and Gerontology, Associate Dean of Primary Care, Keck School of Medicine at USC

*Corresponding author: Dr. Donald M. Hilty MD, Professor, Vice-Chair of Education, and Chief of CL Psychiatry, Department of Psychiatry & Behavioral Sciences, Keck School of Medicine at USC and LAC+USC Medical Center, 2250 Alcazar Street, CSC, Suite 2200, Los Angeles, CA 90033, 323-442-4000, Tel: 323-442-4003; Email: donh032612@gmail.com

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Abstract

Introduction: Contemporary healthcare is trending toward patient-centered approach, integrated health/mental health care, and improved access to quality care. Primary care providers, including those who specialize in geriatrics, want additional clinical skills for screening and basic treatment interventions.

Methods: The literature was reviewed for core concepts and recent developments related to three themes for the care of geriatric patients in medical settings: 1) assessment of depression, cognitive change, and other common behavioral problems, while considering culture, sexuality/lifestyle, and other diversity issues that affect access and treatment; 2) public health, service delivery and telemedicine innovations for patients, providers and caregivers, and 3) evidence-based treatments for depression and cognitive change.

Results: The mental health care needs of older persons are increasing, particularly related to depression and cognitive decline. A careful assessment considers health aging versus disease, prioritizes treatable disorders first (e.g., depression), and considers the impact of cultural and sexuality issues. Public health models and stepped care emphasize prevention, early identification and interdisciplinary team approaches. Telemedicine overcomes geographical, physical limitations and access to care obstacles. Evidence-based treatments for older adults are increasing in number.

Conclusions: More research is needed for the care of geriatric patients with regard to cultural and diversity issues, implementation of additional models of care and telemedicine, and low-intensity, evidence-based approaches. Consulting with a general psychiatrist, a geriatric psychiatrist and other interprofessional experts needs to be in-time, meet provider needs and cost-effective.

Key words: Older; Adults; Geriatric; Mental; Health; Culture; Sexuality; Lifestyle and Diversity; Diagnosis; Disorders; Assessment and Evaluation; and Treatment; Models; Stepped Care; Technology; Telemedicine; Telemental Health; Telepsychiatry

The proportion of older adults is growing faster than any other age group as a result of longer life expectancy and declining fertility rates [1]. Older adults can be particularly at-risk given other health problems, reduced access to appropriate care, and poorer self-assessment of their health than urban counterparts [2]. Up to 39% of older patients suffer from depression or depressive symptoms [3]. Dementia was estimated to affect 44 million people worldwide in 2013 and this number is expected to reach 76 million in 2030 and 135 by 2050 [4,5]. Families are profoundly affected because over 75% of people are cared for at home [6]. Shortages of mental health services have shifted much of the burden of care in rural communities to the primary care sector, for both adult and geriatric patients [7].

Many primary care providers (PCPs) in medical settings are challenged to treat behavioral and psychological symptoms related to dementia [4]. Agitation, aggression, depression, apathy, disinhibition, motor disturbance, nighttime behaviors, and appetite/eating problems occur individually or in clusters. These symptoms may occur with any type of dementia, but depression is often associated with vascular dementia and hallucinations are seen more in Lewy Body dementia. Anxiety and depression are common in older patients, in the early stages of dementia, and in an unrecognized, prodromal neurocognitive disorder [8]. Behavioral and psychological symptoms of dementia lead to: 1) early placement in a nursing home; 2) higher morbidity and mortality; 3) frequent hospital admissions; 4) higher healthcare costs; 5) faster disease progression; and 6) poor caregiver outcomes (i.e., reduced quality of life, worse health, and reduced income).

Another challenging area is the interface of depression, sexuality/lifestyle, and cultural issues. Depression is associated with agitation, insomnia, psychosis, and a variety of socially inappropriate behaviors. Physicians and other health care workers are being called upon to bridge cultural differences that may exist between themselves and their patients [61]. This challenge is more urgent with current minority populations in the U.S. population increasing from 33% now to what is expected to be a majority of 54% in 2050; by 2023, one-half of all children will be "minorities" [62-63]. Language barriers are independently associated with lower rates of patient satisfaction, poor care delivery [70,71], and lack of trust in their providers [72]. The patient-provider interaction is influenced by other sociocultural and experiential factors [79], like sexuality/lifestyle. In one study, less than half of participants felt their health insurance plan gave them a choice of finding a lesbian, gay, or bisexual (LGB) doctor; those who did were more likely to be older, male, and to feel more comfortable discussing sex [80].

PCPs have expressed difficulty caring for elderly patients due to lack of exposure to geriatric medicine training, inexperience, and excessive amounts of time required to manage care [18]. Research on geriatric continuing medical education (CME) needs has traditionally suggests more training on medical management, medications, and mental health issues [19,20]. Elderly patients, physicians and community stakeholders suggest that more attention be paid to

process-of-care (e.g., time management, interviewing skills, and communication skills) [19,20], one's attitudes/compassion toward the elderly, continuity of care and knowledge of community resources, and overall health promotion [19]. Graduate medical education training may have more influence than CME once in practice [21,22]. Good CME programs exist, though, like one with a 4-topic primer (medication management, falls and mobility, urinary incontinence, and dementia) featuring lunch, in-office, and geriatrician-led presentations [23].

Since older adults may reside in rural or nursing home settings, they often have physical limitations and/or have financial concerns. One of the best options for increasing access and leveraging specialist time for people in these situations may be telemedicine. Synchronous telepsychiatry (TP) [24,25] has increased access to care in urban, suburban and rural settings with high satisfaction even among people of different cultures [24,26]. Data on care for older adults are emerging, but more studies are needed in telemedicine and TMH [27], particularly in medical settings like nursing homes, which also lack adequate access to psychiatrists [28]. Acceptance of TMH appears fine, and it was better for older adults than adults in one study treating depression in rural populations [29]. Telehealth also facilitates education to healthcare professionals about specialty care [30,31] and improves clinical outcomes [32,33].

Many treatment guidelines encourage quality and evidence-based care, but many of these guidelines – even for depression – are difficult to implement in primary care [34,35]. Brief, hands-on algorithms for medication, interdisciplinary treatments, and triage exist for depression, psychosis, mania [36-38] and dementia [39,40]. All guidelines suggest looking for medically-reversible conditions (i.e., delirium), re-evaluation, continuity of care, use of non-pharmacologic treatments, and judicious short- and, when medically necessary, long-term psychotropic medication; partnering with the patient-family-caregiver coalition is key, too. Stepped and collaborative care models improve depression and anxiety outcomes [41,42].

This paper will help the clinician caring for geriatric patients in the primary care and nursing home settings, to:

1. Use core concepts and recent developments to assess potential depression, cognitive change, and other common behavioral problems, while considering culture, sexuality/lifestyle, and other diversity issues that affect access to care.
2. Use an approach that emphasizes public health, healthcare delivery models, and telemedicine technology for patients, providers and caregivers.
3. Utilize evidence-based approaches for depression with anxiety, cognitive decline and associated outcomes like agitation.

An Approach to Assessment of Common Mental

Health/Behavioral Symptoms, Cultural and Sexuality Issues in Older Adults

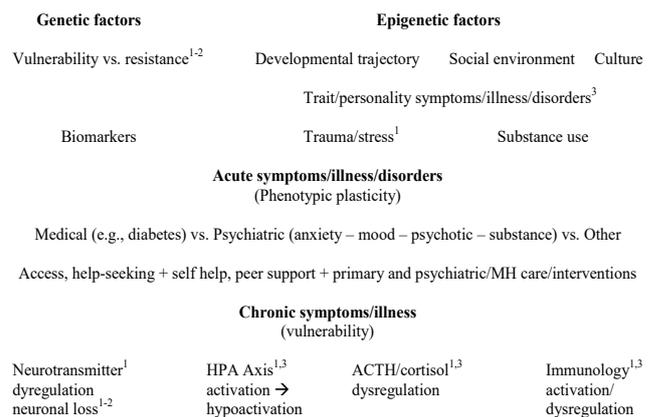
Clinically significant depressive symptoms may or may not meet formal criteria for major depression [43]. Depressed older adults will often deny feeling depressed per se, but may endorse anhedonia, decreased interest/motivation, or preoccupation with somatic symptoms. Distinguishing between dementia, dementia with depression, and dementia secondary to depression may be difficult. However, the presence of prototypical features of a dementia subtype, cognitive impairment out of proportion to the extent of depression, and a family history of dementia, suggest the co-existence of dementia and depression. When in doubt, the depression is treated and symptoms are reassessed.

Behavioral and psychological symptoms often affect perception, thought content, mood, or behavior. In the case of dementia, these symptoms are among the most complex, stressful, and costly aspects of care, and they lead to a myriad of poor patient health outcomes, including excess morbidity, mortality, hospital stays, and early placement in a nursing home [44]. Most people with dementia are cared for in the home by family caregivers, and these symptoms are strongly associated with caregiver stress, depression, reduced income and reduced quality of life [45,46]. Guidelines describe the assessment and management of behavioral and psychological symptoms of dementia [47-49] and depression [50].

More research is being done on dating and sexuality in elderly people. Older adults were more likely to use first-person plural pronouns (e.g., we, our) and words associated with health and positive emotions, whereas younger adults were more likely to use first-person singular pronouns (e.g., I, my) and words associated with work and achievement [51]. This reflects that older adults are more positive in their profiles and focus more on connectedness and relationships to others. Sexuality is often discussed with a focus on sexual problems, which implies that older adults have either dismal or non-existent sex lives. It is known that the frequency and importance of sexual behaviors were moderately positively correlated with quality of life and significantly predict quality of life in the social relationships and psychological domains [52]; the latter was independent of the presence of a spouse/partner and self-reported health. The proportion of women who are sexually active decreases with advancing age, but those who are married or cohabitating had approximately 8 times higher odds of being sexually active [53]. Among women aged 60 years and older who were married or cohabitating, most (59.0%) were sexually active. Among women who were sexually active, higher relationship satisfaction, better communication, and higher importance of sex were related to higher sexual satisfaction.

Genetic and epigenetic factors contribute to illness/symptoms/disorders and suffering (Figure 1).

FIGURE 1. BIOPSYCHOSOCIOCULTURAL CONCEPTUALIZATION OF NATURE (GENETIC PREDISPOSITION) AND NURTURE (EPIGENETICS)



The Basics of Assessment for Depression, Cognitive Decline and Agitation

The history requires the patient's point-of-view, but also collateral information from all other stakeholders and medical providers – largely dependent on where the patient primarily lives and is cared for (home...family and factors affect assessment are important to assess. caregiver; nursing home... staff and others). Cognition, level of pain, physical/other limitations, and environmental factors are important to assess.

Depression screening in the medical setting is usually by patient self-report questionnaire rather than clinical rating scales. The Beck Depression Inventory (BDI) is available in the regular, 21-item, 13-item short form (BDI-13), and 7-item Beck Depression Inventory for Primary Care (BDI-PC); all are well-validated instruments to detect and measure severity of depressive symptoms [54,55]. The Geriatric Depression Scale (GDS, 30 items) and GDS-Short Form (15 items) are specific to older adults [56]. The Patient Health Questionnaire (PHQ-9) is available in many languages and is used to screen, diagnose, and measure the severity of depression, based on the Diagnostic and Statistical Manual, Fourth Edition [57,58]. Question 9 screens for the presence and duration of suicide ideation. PHQ scores ≥ 10 had a sensitivity of 88% and a specificity of 88% for major depression (scores of 5, 10, 15, and 20 represents mild, moderate, moderately severe and severe). The BDI, GDS, and PHQ-9 can also be used to track treatment response.

The cognitive exam should assess concentration, language (i.e., comprehension, naming, repetition), memory (immediate recall, recent and remote), perception, and ability to follow commands, calculate and draw [59]. Structured assessment of cognitive function has often been done with the Folstein Mini-Mental State Examination [60]. An MMSE score < 25 suggests dementia and a 3-5 point decline per year is typical in dementia. False negative MMSE results by this criterion may occur if a patient has a higher level of formal education or a dementia involving primarily subcortical or fronto-temporal areas [61]. False positive results (i.e., MMSE < 25 without dementia) may occur if a patient is actually delirious, has a low level of formal education, speaks English as

a secondary language, or suffers from aphasia, poor hearing or vision impairment [62].

The Montreal Cognitive Assessment scale (MOCA) is now frequently used. In patients with mild cognitive impairment (MCI), a cutoff of 26 for the MMSE had a sensitivity of only 18% to detect MCI, while MOCA detected 90% of MCI subjects with the same cutoff of 26 [63]. In patients who had been diagnosed with dementia or MCI using DSM-IV criteria, MOCA was more sensitive than MMSE (0.97 vs. 0.65), but less specific (0.60 vs. 0.89) using the cutoff criteria of 26/30 [64]. When the MOCA cutoff was lowered to 20/30, its sensitivity was reduced to 0.63, but specificity increased to 0.95. Clock-drawing ability (i.e., proper number sequencing and hand placement) is an accurate, fast screen for dementia in cross-ethnic populations [65]. Specific tests to assess executive function, such as rapidly alternating hand movements ("fist-side of hand-palm") or drawing alternating triangle-rectangle diagrams, could also be included [66] as an adjunct to the MOCA.

The assessment of agitation and other difficult behavioral symptoms of dementia can be accomplished with a number of sensitive, valid, and reliable scales. The most common scales used in clinical trials are the Behavioral Pathology in Alzheimer's Disease Rating Scale (BEHAVE-AD) [67] the Cohen-Mansfield Agitation Inventory (CMAI) [68] and the Neuropsychiatric Inventory (NPI) [69]. These scales generally rely on caregivers' reports or clinical observation of the patient's symptoms, but differ in the specific behaviors measured and the psychological symptoms included. For example, the CMAI specifically focuses on agitation and aggression, whereas the NPI and BEHAVE-AD cover a much wider range of symptoms. Contextually, clinicians need to frame these symptoms as acute or chronic in order align the treatment and expectations.

Assessment of Culture, Sexuality and Other Diversity Issues

With regard to culture, the boundaries of normality and pathology vary across cultures – as does the tolerance for specific symptoms – as well as the manner of expressing it. Mistaken interpretations of behaviors may contribute to vulnerability, suffering, and missed opportunities for care. The gold standard for clinical care is linguistic, cultural *and* racial concordance, which facilitates patient and provider satisfaction, as well as patient adherence to treatment [69-73]. Cultural competency training improves outcomes [74]. The use of professional interpreters improves clinical care and patient satisfaction more than ad hoc interpreters [75]; mistakes occur in interpretation by staff (omissions, distorted questions, additions), nurses (reliability, missed contexts) and family (patient and their views) [76-78]. The use of a non-primary, shared language (e.g., a third language shared by both patient and clinician) when neither's primary language can be used, is advocated in some parts of the world, like Europe, but it is not usually possible in developing or third world countries [79]. The presence of a third person (i.e., an interpreter) influences transference and counter-

transference, with significant consequences on a doctor-patient relationship [80].

Regarding sexual behaviors, healthcare interactions, and HIV-related perceptions among adults age 60 years and older, the majority of participants (83.1%) visited a physician at least twice in the previous year, 30.9% had discussed sex with a physician since turning 50, and 14.2% had been tested for HIV [81]. Relative to non-Hispanic whites, African Americans were more likely to be divorced or widowed and have more lifetime sexually transmitted infection (STI) diagnoses; the latter group, while having greater perceived risk for HIV infection was less likely to have discussed sex with a physician since turning 50 [81]. In addition, men were more likely to disclose their sexual orientation to their health care provider (HCP), to feel very comfortable discussing sex, to have a male doctor, to have a choice of finding a LGB provider through their insurance plan, and to think their provider is LGB. In another study, most patients (87%) reported the same quality of care and equal respect (87%) as heterosexual patients, and PCPs were generally sensitive to gay and lesbian concerns (71%) [82]. Interestingly, although 70% disclosed their sexual orientation to their provider, only 29% were asked their sexual orientation by their provider.

Lesbian, gay, bisexual and transsexual (LGBT) older adults may have experienced significant support during their lifetime, or not uncommonly, experiences with marginalization and stigmatization [83] - patient-provider interactions likewise could be positive or negative. Stigmatization and discrimination by agencies (e.g., the federal government, military) and the medical establishment has sometimes occurred (e.g., Diagnostic and Statistical Manual [84] first listed homosexuality as a sociopathic personality disturbance along with substance abuse and sexual disorders). Worldwide shifts led removal of homosexuality as a pathologic diagnosis in the United States [85]. Many of these LGBT older adults suffered internalized stigma and extreme fear of disclosing their sexuality to their medical provider for fear of judgment and discrimination. Knowledge of this historical context is important when caring for LGBT older adults and therefore the need for sensitive, nonjudgmental care is crucial. LGBT sensitivity training for geriatric providers has been shown effective in improving their attitudes, beliefs, and awareness of the struggles unique to LGBT elders [86].

Older LGBT patients may face different psychosocial circumstances during their lifetime, which continue to affect them. Some may: 1) have experienced rejection by their family resulting in poor social support, overall; 2) have been less likely to have children compared to their heterosexual counterparts; and 3) have suffered significant loss of their social networks due to the AIDS epidemic. On the other hand, LGBT elders were part of a generation that at least in urban areas, networked for healthcare, political, social and other issues – gaining a close-knit group of support that has helped them throughout life; nonetheless, with aging, some regular attrition through losses occurs even now in this era in which HIV prevention, identification, and early intervention has had positive health outcomes. A model of support group for older

gay people has been reported [87].

American Association of Medical Colleges (AAMC) Sexual Orientation, Gender Identity, and Sex Development Project aims to create a repository for competency-based educational and assessment resources that address the health of individuals who are LGBT, gender nonconforming and/or born with differences of sex development [88]. The report identifies 30 competencies that physicians must master. These competencies fall within eight domains of care critical to training physicians, including patient care, knowledge for practice, practice-based learning and improvement, interpersonal and communication skills, professionalism, systems-based practice, interprofessional collaboration, and personal and professional development. Nursing curricula are also addressing these issues [89].

Physical and laboratory examination

Physical and laboratory examination may reveal signs of underlying medical causes of reversible dementia and depression requiring acute intervention, such as metabolic illnesses, poor nutritional status, thyroid disease, and anemia. Vision and hearing should be assessed and corrected, when practical. Neurologic examination should be conducted to determine if focal neurological signs are present. Routine laboratory tests include CBC with differential, electrolytes, calcium, glucose, BUN/Cr, liver function, TSH, and serum B12/folate. Other laboratory tests may be appropriate in certain clinical situations, including HIV, serology (syphilis), toxicology screen, urinalysis, drug concentrations, albumin, folate, ESR, CSF examination, EKG, and chest X-ray [66]. The routine use of brain imaging (i.e., MRI or CT) is controversial but may be particularly useful for detecting vascular changes in the brain (eg white matter hyperintensities or lacunar infarctions) not evident on clinical exam, presence of a mass lesion (eg tumor) or enlarged ventricles (normal pressure hydrocephalus) [65]. Vascular risk factors should be aggressively treated because they may cause both depression and dementia.

An Approach to Geriatric Special Populations that Emphasizes Public Health, Healthcare Service Delivery Models, and Telemedicine Technology for Patients, Providers and Caregivers.

Public Health and Biopsychosocial Models.

Primary prevention may reduce the rate, delay the onset, or reduce complications of dementia. A delay in onset of Alzheimer’s disease by 5 years could decrease the prevalence by 50% in one generation, as individuals would succumb to other chronic illnesses first [90]. Minimizing cerebrovascular risk is another example that may prevent vascular dementia. Use of antioxidant vitamins (vitamin E, in particular) may reduce the risk of developing Alzheimer’s [91]. Regular exercise may also help preserve cognitive ability, especially activities that incorporate integrated motor and

cognitive coordination such as Tai Chi [92]. Regular screening of depression, anxiety, and suicide is also recommended. Medications (e.g., anti-cholinergics) and substances causing cognitive impairment or depression should be identified and reduced or eliminated. This includes over-the-counter medications and herbs that may contribute to cognitive impairment. Abuse/dependence of alcohol or other substances must be addressed and eliminated.

A biopsychosociocultural approach [93] is a useful starting place for treatment, as many psychosocial, cultural and sexuality issues are often overlooked (Table 1). A multimodal treatment solution is likely to be needed and this may change over time, depending on medical, psychiatric and other age-related changes. Secondary and tertiary prevention strategies include diet, lifestyle, mental health and other interventions. In ideal situations, patients and caregivers are connected to counselors versed in both geriatrics and mental health. Counselors would facilitate a standardized protocol to identify, monitor, and treat neuropsychiatric symptoms within the scope of a multidisciplinary care team. Even patients in advanced stages of dementia can significantly reduce behavior disturbances and improve autonomous functioning from 5-15 minutes of daily exercise to improve communication and socialization [94]. There can also be a small, but statistically significant improvements in agitation, depression, appetite/eating disorders in patients exposed to sunlight on a regular daily basis [95].

TABLE 1. BIOPSYCHOSOCIALCULTURAL OUTLINE ASSESSMENT AND TREATMENT.

Key: A = assessment; T = treatment

<u>Biological</u>	
1	A labs
2	A Medical: insomnia (OSA), depression (PD),
3	A genetic risk
4	A neuroscience Etoh/subst subcortical
5	A epigenetics stress (abuse, loss, other): HPA, psychoimm’y and other; general risk, early ID, early intervention
6	T pharmacokinetic and pharmacodynamics differences
7	T exercise
8	T diet
9	T genetic predicting mediation response
10	T epigenetics prevention, epidem risk for, and other

11	T medication	15	T health education: illness, adherence, help-seeking, coping, healthcare system issues
12	T substances: interfere with meds, reduced adherence, more frequent episodes	16	T case management vs. payee vs. legal vs.
13	T insomnia.	17	T volunteer work/service to build esteem and feel positive
<u>Psychological</u>		18	T identify steps, obstacles
1	A explanatory model: indiv, family, comm, culture and other	19	T triggers for anxiety or substance use
2	A developmental	20	T medical/other disorder comorbidities
a	milestones	<u>Social:</u>	
b	temperament?	1	A social network: value others, others' influence, trust; peers, family, groups, and others
c	cognition and learning	2	A family/social stressors
d	education	3	A family, community views on treatment options (+ or -; none, core and/or complementary)
3	A age, gender, lifestyle, and other	4	Geography: urban, suburban, rural; level of country development; social milestones/disasters/crimes
4	A stress/illness	5	T maintain supportive relationships with partner and friends
a	cause, impact, and tendencies (akin to coping with CA)	6	T encourage spiritual/religion/church groups
b	prototypes	7	T therapy groups anger, interpersonal feedback
c	losses: immigration, rituals, communication	8	T education groups: (e.g., depression, DM education if comorbid), substance
d	steps, obstacles	9	T education broadly: stigma about mental and substance illnesses, community (e.g., Depression Bipolar Support Alliance if bipolar OR NAMI)
5	A daily functioning: work, interpersonal, social, financial/similar	<u>Cultural:</u>	
6	A joy, fun/hobbies, gratification; how spend time; issues troubling	1	A immigration on development, health, family roles, language development, and other
7	A T cause, course, severity, likely outcomes; help-seeking; and 'usual' treatments	a	Context (e.g., stress, losses)
8	T interface mind – body	b	Timing (e.g., school-age)
9	T encourage indiv (vs. group) practice with spiritual/religion, diary, reflection, and other	c	Pre- and post-immigration
10	T evaluate indiv effects of illness, immigration and adjusting to American culture	d	Ongoing rel'ps with non-immigrants
11	T relaxation techniques	e	Roles, generations
12	T meditation	f	Opportunities: gender, financial, other
13	T psychotherapy indiv vs. couple vs. family vs. group format	2	A blending of cultures: home, work, relationships, and other
14	T psychotherapy: model/technique (dynamic, CBT)		

- 3 A explanatory model: indiv, family, comm, culture and other
- 4 A generational roles and expectations
- 5 A T patient's and provider's gender/ethnicity/nationality/development/values/lifestyle/\$ and how that affects rel'p.
 - a Expectations
 - b Communication
 - c Disagreement
 - d Language/third party involved
- 6 T encourage spiritual/religion/church groups
- 7 T preference for 'primary' and secondary language.
- 8 T involvement of family (if any involvement)

Stepped and Integrated Care

Many dementia patients have medical problems, so integrated inpatient medicine and psychiatry treatment programs may be the new standard [96,97]. These patients have been categorized into four groups: I) low behavioral and physical health needs; II) high behavioral health and low physical health needs; III) low behavioral health and high physical health needs; and IV) high behavioral health and high physical health needs [98]. A 17-year follow-up study of over 80,000 patients, those with mental illness died an average of 8.2 years earlier than those without it, with excess mortality primarily due to socioeconomic factors, and poor access to effective primary/preventative care [99].

In a stepped care model, patients start with an evidence-based treatment of low intensity [24,100,101], are monitored, and are then 'stepped up' to a higher intensity treatment [102]. Less intensive interventions are used like psychoeducation or self-help interventions (individual or group courses), problem solving treatment (PST), to more intensive treatments such as cognitive behavioral therapy and pharmacotherapy [41,42,103]. Stepped care models are used internationally, with England and New Zealand implementing guidelines for depression and anxiety [104]. The first trial on 170 older adults recruited in primary care found the program halved the incidence of depression and anxiety disorders from in 12 months, demonstrated cost-effectiveness and maintained outcomes at 24 months [105].

MH service delivery in primary care has a continuum of providers: the care coordinator-medical assistant-social worker-nurse-primary care provider-MH clinician-telepsychiatrist. MH clinicians include psychologists, social workers, marriage and family therapists, and others who contribute to services in this setting. Patients learn to use care managers (monitors follow-up plans, interventions based on risk-

stratification, and patient tracking) [102]. Optimally, in MH service delivery, non-MD MH professionals see less complex cases, leaving the psychiatrist to manage more complicated cases, provide clinical oversight, and review cases in team formats [106]. Overall, this ensures that a range of effective, non-pharmacologic, health psychology-based treatments is employed [107]. Effective and cost-effective models employ adequate intervention resources at the right time (e.g., care coordination) [100,101].

Telemedicine and Telemental Health Options for Older Patients, Providers, and Caregivers

Telemental health services are increasing health care access for patients in the home and in community, rural, and underserved areas. There are traditional models and technologies, which include telemedicine, safety alerts, and cell phones. TP or telemental healthcare (TMH) has comparable outcomes to in-person care for diagnosis and assessment with a variety of treatments, across many populations (e.g., adult, child, geriatric), and to many settings (e.g., emergency, home health). It has been used with a variety of models of care (i.e., collaborative care, asynchronous, mobile, telemonitoring) with equally positive outcomes [24].

TMH models of clinical care and education have pros and cons [24,108], including their level of overall intensity, cost, feasibility and depth of the relationship between the TMH provider, the PCP and patient. *Low intensity* models include tele-education, formal case review and in-person, telephone or email doctor-to-doctor "curbside" consultations. A multi-specialty phone and e-mail physician-to-provider consultation system for adults and children with developmental disabilities used a 24-hour warm-line [109]. *Moderate intensity* models include an integrated program of MH screening, therapy on site, and telepsychiatric consultation (phone, email or video), with continuing medical education (CME) and training on screening questionnaires [110,111] or asynchronous telepsychiatry (ATP) to primary care in English and Spanish-speaking patients in primary care [108,112,113]. *High intensity* models are typically the ones previously mentioned involving collaborative care [114-116].

Since the concordance for culturally competent care is rarely possible, telemental health (TMH) and other e-mental health options may help [24,117,118]. Different approaches have been described to face many challenges of Hispanics/Latinos and Asians, Native American, Eastern European and other populations (e.g., sign language) [24]. One model international project launched care for ethnic minorities who had long waiting times (3-6 months at private practitioners and even 12-36 months at specialized centers for treatment of refugees and torture victims), a lack of bilingual resources, and services using interpreters [119]; programming allowed patients to use their own language, enhance reliable assessment and provide valid treatment. High satisfaction regardless their ethnicity or educational level was noted, and furthermore, all participants preferred TMH compared to in-person care with a translator [120], partly due to perceived

higher anonymity, confidence/trust in providers and self-efficacy to express intimate thoughts and feelings without a third person involved.

Experimental telehealth technologies include image and behaviour analysis; biosignals; language pattern, discriminant word and acoustic analyses; virtual reality (VR), single user virtual environments (SVEs) or collaborative virtual environments (CVEs); fully immersive systems; VR exposure therapy; and avatar therapy. We aim to describe high- and low-end options, with strong and limited evidence bases, that have been used in patients and caregivers. As an example, an original typology of 4 types of pleasure for physical activity in older age was developed (sensual pleasure; documented pleasure; the pleasure of habitual action; and the pleasure of immersion) [121] – simulation and immersion may make it easier for many patients to have these experiences.

TMH to Geriatric Populations is increasingly common:

- Nursing home TMH non-randomized studies have been effective for depression or dementia, making evaluation easier and more efficiently using consultant time [122].
- Assessment, cognitive intervention, and outcomes have been similar to in-person and a new development is telemonitoring of depression in the home, which facilitates connectedness [123].
- One study showed that neurocognitive assessment via TP using a Spanish-language battery was comparable to in-person (IP) testing for Latino patients in a sample of Spanish-speaking older adults in a rural setting; the order of IP and TP test administrations [124].
- Adding a geriatric nurse practitioner (GNP) to an outpatient diagnostic multidisciplinary facility for patients with cognitive disorders may improve the PCP adherence to advice from the faculty and reduce subjective burden of the informal caregiver [125].
- Telehealth problem-solving therapy (tele-PST) for low-income homebound older adults in a 6-month, randomized controlled trial showed that both tele-PST and in-person PST were reduced depression and disability, but tele-PST outcomes were sustained significantly longer than those of in-person [126].
- An integrated telehealth care for chronic illness and depression in geriatric home care patients compared in-home nursing with education to a telehealth nurse intervention (conducting daily telemonitoring of symptoms, body weight, and medication use; providing eight weekly sessions of problem-solving treatment for depression; and providing for communication with participants' primary care physicians, who also prescribed antidepressants). Psychoeducation [127]. The depression scores were 50% less at 3- and 6-month follow-up,

with problem-solving and medical care self-efficacy improved as well.

Telehealth and Caregivers

Nationally, 79% of caregivers have access to the Internet, and of those, 88% look online for health information. Education (89% of those with a college degree vs. 38% who have less than a high school) and income (95% of adults with household income \$75,000+ vs. 57% with household income less than \$30,000) affects use [128,129].

- Telehealth to “digital illiterate” patients (i.e., no interest in using, or capacity to use, computers and smartphones) found digital pens for daily reporting of their health state - in the form of a virtual health diary easy to use and caregivers felt that improved contact led to more “security” at home [130].
- Older adults may be challenged to use new technologies due to aging-related changes, lack of experience, and different attitudes toward their use. One-on-one training/instructions and use of a telemonitoring application help older adults and caregivers adapt to new health care technologies in the treatment of dementia [131].
- Geriatric (mean age 80) outpatients with heart failure, with an average ejection fraction of 46%, randomly received control or a telemonitoring system (oxygen saturation, heart rate, and blood pressure readings) over 6 months; office-hours telephonic support provided by a geriatrician. The program was feasible and hospitalizations and risk of death were reduced for the intervention group [132].
- Technology-enhanced nurse monitoring for assessment, diagnosis, and triage of older adults living in community-based settings, included biometric and nonbiometric sensors to a data management system [133]. Challenges included 1) data interpretation, 2) clinical inferences from nonbiometric data, 3) integrating data generated by three different telehealth applications into a clinically meaningful cognitive framework, and 4) figuring out how best to use nursing judgment to make valid inferences from online reporting systems. Nurses developed expertise over the course of the current study.
- A review of Internet-based interventions for medical and MH disorders showed that approximately two-thirds of open or randomized controlled trials reduce caregiver stress and improve quality of life [134]. Family caregivers located in rural areas found e-health support to be beneficial in comparison with conventional caregiver support [135]. The interventions range from interactive communities to bulletin board therapy groups [134]. The population of patients cared for varied from mental health (dementia, schizophrenia, anorexia) to medical (older adults/aging, heart transplant, traumatic

brain injury, hip fracture, cancer, stroke). Significant improvements in the caregivers' outcomes were detected while caregivers were satisfied and comfortable with various support services delivered via technology (e.g., cell phone) [136]. Services included webcasts, discussion boards, online classes, learning modules, and chat rooms.

Specific Evidence-based Treatment Approaches for Depression and Anxiety, Cognitive Decline, and Caregiver Well-being.

Depression Psychosocial Treatments

Many older adults with depression treated in primary care settings prefer psychotherapy, whenever available, to medications [137]. Psychotherapy alone is indicated in the treatment of mild depression, whereas a combination of psychotherapy and pharmacotherapy is recommended for moderate-to-severe or chronic depression [138]. Supportive intervention is the cornerstone of any patient-provider interaction, whether this is a brief, physical complaint-focused session, or a psychiatric medication management appointment. Evidence-based psychotherapies for geriatric depression include cognitive behavioral therapy (CBT), problem-solving therapy (PST), and brief dynamic therapy [139-141]. Despite proven benefits in younger adults, including women with postpartum depression, interpersonal therapy (IPT) has yet to garner solid evidence in late life [142,143]. It may help most for depressed older adults whose original focus was role dispute, but was not superior to nortriptyline or clinical management for those with unresolved grief or undergoing role transitions [144]. IPT has also been adapted for use in patients with early cognitive impairment (IPT-ci) [142].

PST is a time-limited psychotherapy which has been shown to improve depressive symptoms and functioning in depressed older adults in the primary care setting; one of its advantages is that it can be used for patients with incipient cognitive disorders, including executive dysfunction [145,146]. PST utilizes a scaffolding of seven successive steps: defining the problem, setting goals, brainstorming solutions, selecting solutions, implementing the solutions, reviewing the implemented plan, and scheduling activities [147]. The PST primary care version, PST-PC, consists of 6-8 half-hour sessions. PST was used in the Improving Mood - Promoting Access to Collaborative Treatment (IMPACT) study, performed by trained depression care managers, typically nurses [146]. In this study, depressed elderly with medical comorbidities who received PST reported improved pain levels, physical functioning, and quality of life following treatment [147-149].

Anxiety disorders are highly comorbid with depression throughout lifetime. Besides the well-known benefits of CBT (including behavioral approaches, such as exposure with response prevention for OCD and phobias and prolonged

exposure for PTSD), other modalities have been studied for anxiety disorders, with variable results. These include IPT, exercise, mindfulness-based therapies, cognitive processing therapy, and eye movement desensitization reprocessing (the latter two, for PTSD) [150-152]. Mindfulness-based stress reduction (MBSR) is an approach initially developed for the treatment of chronic pain, but later adapted for multiple physical and emotional conditions [153]. In older adults, MBSR has been studied with good preliminary results for anxiety, depression, mild cognitive disturbances including executive dysfunction, insomnia, high blood pressure, and pain, and benefits appear to maintain over time with regular practice of meditation [154-158].

Depression also often co-occurs with personality disorders in late life. In particular, patients with borderline personality disorders (BPD) will continue to need support due to their increasing isolation and low psychosocial functioning. A recent review of psychotherapies for older adults with BPD identified several evidence-based approaches: CBT, dialectical behavior therapy (DBT), family therapy, Systems Training for Emotional Predictability and Problem Solving (STEPPS), and transference-focused psychotherapy (TFP) [159]. DBT combines CBT and mindfulness approaches, takes place over longer periods of time (one year is typical), and consists of weekly individual therapy, weekly group therapy, phone calls between sessions to solidify the skills learned, and a consultation/support group for the therapists [160].

STEPPS is a manualized psychoeducational program based on CBT principles, developed for patients with BPD. This approach is delivered exclusively in groups, in seminars structured around three main areas: 1) patient education on BPD as an illness, and the ability to manage it by learning appropriate behavioral and emotional skills; 2) skill development for managing the cognitive and emotional aspects of BPD; and 3) skill development toward managing the behavioral aspects of BPD [161,162]. TFP is a psychoanalytically-derived therapy for patients with severe personality disorders including BPD, employs interpretations, and entails individual twice weekly sessions [163].

A new short-term type of psychotherapy, dignity therapy, was developed for patients of all ages (and their families) living with life-threatening or life-limiting illness [164]. Existential therapy targets individuals with existential issues, such as aging and fear of death [165]. Reminiscence therapy (also called life review) encourages patients to revisit their past and utilizes personal artifacts (photos, other memorabilia) to help boost the patients' ego strength [166]. Reminiscence may be helpful even for individuals with early cognitive impairment, since long-term autobiographical memory is usually preserved. Social skills therapy is another psychosocial approach used for patients with autism spectrum disorders, intellectual disability, or psychotic disorders, all of which can be encountered in older adults, along with mood disorders. The main psychosocial approaches discussed, with indications and typical treatment duration (Table 2). After comple-

tion of a psychotherapy course, the course may be repeated with a different focus (in CBT or IPT), monthly maintenance sessions may be offered, or a different modality may be used (e.g., CBT followed by brief dynamic therapy). Each therapeutic modality can be delivered by psychiatrists, psychologists, or master’s level clinicians with specific training (i.e., social workers, nurse practitioners).

therapy at 3-, 6-, and 9-month periods after remission. The *long-term (i.e., maintenance) phase* of treatment is indicated for those with three or more major depressive episodes and with life-threatening suicidal behavior. Electroconvulsive treatment and transcranial magnetic stimulation (TMS) need to be considered for patients with treatment-refractory depression, although studies regarding the long-term effectiveness of TMS are still needed.

TABLE 2. PSYCHOSOCIAL APPROACHES FOR OLDER ADULTS: INDICATIONS AND TYPICAL TREATMENT DURATION.

	CBT	DBT	Dynamic	IPT	MBSR	PST	Supportive	TFP	Other
Indication									
Anxiety disorders									
GAD	X		X		X		X		
OCD	X				X		X		
Panic	X		X		X		X		Relaxation training
Phobias	X						X		
PTSD	X			X	X		X		Relaxation training, CPT, EMDR
Social anxiety	X		X		X		X		Toast Masters
Cognitive decline				IPT-ci		X (early)	X		Caregiver/patient support groups
Depression	X		X		X	X	X		Support groups, DBSA, NAMI
Medical comorbidities	X				X	X	X		Caregiver/patient support groups
Personality disorders	X	X	X				X	X	Family therapy, STEPPS
Psychosis	X						X		
Substance use	X		X		X		X		AA, NA
Suicidality	X	X	X				X	X	
Duration/Frequency	8-12 weeks	1-2 years	≤ 6 months (brief)	12-16 weeks	8 90-min sessions	6-8 30-min sessions	Varies as indicated	≥ 1 year	
Telehealth option	X			X		X	X		

AA = Alcoholics Anonymous; CBT = cognitive-behavioral therapy; CPT = cognitive processing therapy; DBSA = Depression and Bipolar Support Alliance; DBT = dialectic behavioral therapy; EMDR = eye movement desensitization reprocessing; ERP = exposure with response prevention; IPT = interpersonal therapy; IPT=ci = IPT for cognitive impairment; MBSR = mindfulness-based stress reduction; NA = Narcotics Anonymous; NAMI = National Alliance on Mental Illness; PST = problem solving therapy; TFP = transference focused therapy

Depression Medication Treatments

The *acute phase* of treatment is the period spanning from the onset of acute depression to full remission. Antidepressant medication is recommended as the initial treatment for the following patients: patients with suicidal ideation and plans; those with episodes of long duration; those with psychotic, melancholic, or recurrent depression; those with a strong family history of depression; and those who do not want or have access to psychotherapy. A titration schedule for antidepressants may help to ensure an adequate trial of medication (Table 3). Most patients who receive adequate treatment reach remission, but others have only a partial response or suffer a relapse before achieving remission. For a single depressive episode, medication is continued for a 6-month period after remission, since patients have a higher rate of relapse on placebo or low-dose antidepressant

Dementia Psychosocial Treatments for Patients and Caregivers

Care of behavioral and psychological symptoms of dementia in community dwelling people with dementia requires a caregiver and patient centered focus. The current evidence for non-pharmacologic and a pharmacologic treatment is limited [4,167,168] and the upcoming APA Treatment Guideline for Dementia with Agitation or Psychosis is based on the Agency for Healthcare Quality and Research evidence base and consensus process [169]. We also describe an approach that integrates treatment modalities of both types in an approach tailored to the patient and caregiver (again focusing on community dwelling people with dementia). The quality and strength of evidence supporting the treatments is described, relatively, to the degree it exists.

Important aspects of psychiatric management include educating patients and families about the illness, its treatment, and sources of additional care and support (e.g., support groups, respite care, nursing homes, and other long-term-care facilities). Families may need advice on financial and

in the early stages of dementia), reminiscence therapy (for mood and behavioral change), validation therapy and sensory integration all need more formal evaluation.

TABLE 3: A SUGGESTED TITRATION SCHEDULE FOR ANTIDEPRESSANTS.

Medication Generic	Medication Trade	Initial Dosage	Dosage at 1-2 Wks	Dosage at 2 Wks	Dosage at 4+ Wks
SSRIs					
Citalopram	Celexa	20 AM	40	40-60	40-80
Escitalopram	Lexapro	5-10 AM	5-10	10-20	10-20
Fluoxetine	Prozac	5-10 AM	10-20	20-40	20-40
Paroxetine	Paxil	10 HS	20	20-40	20-50
	Paxil CR	12.5-25 HS	12.5-25	12.5-37.5	25-62.5
Sertraline	Zoloft	25-50 AM	50	50-100	50-200
SNRIs					
Desvenlafaxine	Pristiq	50 AM	50-100	50-200	50-400
Duloxetine	Cymbalta	30 AM	30-60	60-120	60-120
Levomilnacipran	Fetzima	20	20-40	20-80	40-120
Milnacipran	Savella	12.5 BID	25 BID	25-50 BID	50-100 BID
Venlafaxine	Effexor XR	37.5-75 AM	75	75-150	75-225
OTHERS					
Bupropion	Generic	75 AM	75AM/PM	150/75	150/75
	Wellbutrin SR	150 AM	150	150 AM and 150 PM or HS	150-200 BID
	Wellbutrin XL	150 AM	150	150-300	150-450
Mirtazepine	Remeron	15	15-30	15-30	15-45
Nefazodone	Serzone	100 HS	50 AM/100 HS	100/200	100/200 to 200/400
Selegiline	Ensam patch	3 AM	3-6	3-9	3-9
	Zelpar oral	1.25 AM	1.25	1.25-2.5	1.25-2.5
Vilazodone	Vylbrid	10 AM	10-20	20-40	20-40
Vortioxetine	Brintellix	5-10 AM	5-10	5-10	10-20
TCAs					
Desipramine	Norpramine	75 AM	75-150	75-150	150-300
Imipramine	Tofranil	75 HS	75 BID	75/150	75-150 BID
Nortriptyline	Pamelor	25 HS	25-50	75-100	75-150

legal planning due to the patient's eventual incapacity (e.g., power of attorney for medical and financial decisions, an up-to-date will, and the cost of long-term care). Behavior-oriented treatments are used to identify the antecedents and consequences of problem behaviors and attempt to reduce the frequency of behaviors by directing changes in the environment that alter these antecedents and consequences [170-176].

Stimulation-oriented treatments, such as recreational activity, art therapy, music therapy, and pet therapy, along with other formal and informal means of maximizing pleasurable activities for patients, have modest support from clinical trials for improving behavior, mood, and, to a lesser extent, function, and common sense supports their use as part of the humane care of patients. Among the emotion-oriented treatments, supportive psychotherapy (for feelings of loss

Caregiver interventions are an important component of the psychosocial management for older adults with dementia [177]. Both patients and caregivers want to understand disease progression, know what the future will hold, and how oriented treatments, such as reality orientation, cognitive retraining, and skills training focused on specific cognitive deficits, are unlikely to have a persistent benefit and have been associated to plan for the future [178]. Thus, psychoeducational programs, caregiver support groups, and family therapy emerge as crucial treatment aspects. Psychoeducation approaches individually, for families or in groups-in-person, by phone, using video materials, or via telehealth – see below) have been beneficial in reducing caregiver stress, improving their understanding of the disease and their coping skills, enhancing the quality of the relationship with the care recipients, and increasing caregiver support [179-181].

TABLE 4: DOSING SCHEDULE FOR NON-FDA APPROVED PSYCHOTROPIC MEDICATIONS FOR AGITATION RELATED TO DEMENTIA AND OTHER CHRONIC NEUROPSYCHIATRIC CONDITIONS.

Medication Generic	Medication Trade	Initial Dosage	Dosage at 1-2 Wks	Dosage at 2 Wks	Dosage 4+ Wks	Evid-base ¹ (I best)	Tolerability ² (I best)
SSRIs/SNRIs							
Citalopram	Celexa	20 AM	20	20-40	20-40	III	I
Fluoxetine	Prozac	5-10 AM	5-10	5-20	5-20	III	II
Paroxetine	Paxil	10 HS	10	10-40	10-40	III	II
	Paxil CR	12.5-25	12.5-25	12.5-25	12.5-37.5	III	I
Sertraline	Zoloft	25-50	50	50	50-100	II	I
Venlafaxine	Effexor XR	37.5-75 AM	37.5-75	37.5-75	75-150	III	I
TCAs/OTHER ANTIDs							
Imipramine	Tofranil	25-75 HS	25-75 BID	25-50 BID	25-75 BID	III	III
Nortriptyline	Pamelor	25 HS	25	25-50	25-75	III	II
Mirtazepine	Remeron	15	15-30	15-30	15-45	III	II
Nefazodone	Serzone	100 HS	50 AM/100 HS	50 AM/100 HS	100/200	III	III
ANTIPSYCHOTICS							
Aripiprazole	Abilify	2.5-5 AM	2.5-5 AM	2.5-10 AM	2.5-15 AM	II	II
Haloperidol	Haldol	0.5-1 HS	0.5-1 BID	0.5-2 BID	0.5-5 BID	II	III
Olanzapine	Zyprexa	2.5-5 HS	2.5-5	5-10	5-20	II	II
Risperidone	Risperdal	0.5 HS or BID	0.5-1 BID	0.5-1 BID	0.5-2 BID	II	II
Quetiapine	Seroquel	25 HS	25-50 BID	25-50 TID	25-100 TID	II	II
Ziprasidone	Geodon	20 HS or dinner	20 HS or dinner	20-40 HS or dinner	20-80 HS or dinner	II	II
MOOD STABILIZERS							
Carbamazepine	Tegretol	100 HS	100 BID	100-200 BID	100-200 TID	III	III
Gabapentin	Neurontin	100 HS	100 BID	100-300 BID	300-600 TID	III	I
Lithium	Generic	300 HS	300 HS or BID	300 BID or 300/600	300/600 BID	II	III
Valproate	Generic or Depakene	250 HS	250	250-500	250-750	II	III
	Depakote IR					II	II
	Depakote ER					II	I
Oxcarbazepine	Trileptal					III	I
OTHERs							
Buspirone	Buspar	5 BID	5 BID	5 TID	5-10 TID	II	I
Propranolol	Generic	5 BID	10 BID	10 TID	10-30 TID	III	II
	Inderal LA	10 AM	10-20	10-30	30-60	III	I

Notes:

1. Analysis by authors of literature based on grading/rating into recommendations (via evidence base and expert consensus) by consensus is organized into A-D (strong recommendation, recommendation, option, option). The top tier is Strong Recommendation (Level I evidence or consistent findings from multiple studies of levels II, III, or IV; clinicians should follow unless a clear and compelling rationale

for an alternative approach is present). The second tier is Recommendation (Levels II, III, or IV evidence and findings are generally consistent; generally, clinicians should follow this but should remain alert to new information and sensitive to patient preferences. The remaining tiers imply less evidence, relative benefit, some harms or uncertainty (further research is needed or that we just cannot be sure). References below.

2. Tolerability analysis based on all clinical studies and adjusted to geriatric populations, which have different pharmacodynamics and often have comorbid medical problems.

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Another psychosocial approach which has been shown to help reduce dementia caregiver burden is cognitive reframing, a CBT technique which focuses on the caregivers' maladaptive cognitions about their care recipient's behavior and their own performance in the caregiver role. A recent systematic review found beneficial effects of cognitive reframing with regard to caregiver stress, anxiety, and depression; however, no effects were found on burden, coping styles, self-efficacy, reaction to the care recipient's behavior, or institutionalization [182]. Multimodal interventions, consisting of psychoeducation, behavioral care recipient strategies based on the antecedent-behavior-consequence model described above, and family meetings, have been shown to reduce caregiver burden and emotional distress [183]. A combination of individual and group therapy, support groups, and ad-hoc telephone counseling for caregivers led to significant improvements in their physical health, maintained at two-year follow up [184].

Dementia Medication Treatments

Cognitive enhancers include cholinesterase inhibitors (donepezil, FDA-approved for mild to severe Alzheimer's disease (AD); rivastigmine, approved for mild to moderate AD and Parkinson's disease dementia (PDD); and galantamine, approved for mild to moderate AD) and the NMDA antagonist memantine. Memantine has been used, with variable benefit, in vascular dementia, dementia with Lewy bodies, fronto-temporal dementia, PDD, and the dementia associated with the newly discovered fragile X-associated tremor/ataxia syndrome [185-190].

A myriad of neuropsychiatric symptoms can accompany cognitive disorders in late life, like anxiety, mood disturbances (depression, irritability), agitation/aggression, apathy, insomnia, and other sleep-related phenomena (REM-sleep behavior disorder, restless leg syndrome). Psychosocial and specifically behavioral interventions are preferred as treatments of choice, but often symptomatic pharmacologic treatment is necessary; medications are prescribed off-label by clinicians. A review of available evidence, though limited, suggests these medications may help with agitation/aggression in patients with dementia (Table 4).

Treatment Studies Related to Sexual Function in Diverse Patients

Sexual function is an important consideration for older patients related to aging and additionally for those with medical/mental health issues and taking medication that may impair healthy functioning [191]. There is a great need for such studies in older adults, but at present, most of what is known is extrapolated from adult studies; ironically, many PCPs are not familiar with these data, either. For example, about 70% of patients with depression have decreased desire, arousal, and/or capacity for orgasm. Some antidepressants (e.g., TCAs, SSRIs, venlafaxine) cause sexual dysfunction, including erectile dysfunction, ejaculatory dysfunction, anorgasmia, and decreased libido [192]. The most effective treatment is primary prevention, using medications that cause little to no sexual dysfunction (e.g., bupropion, mirtazepine) [192]; 4 double-blind, controlled trials showed bupropion significantly induced less sexual desire disorder and less orgasmic dysfunction than an SSRI (sertraline); no clear differences occurred in terms of sexual arousal [193-196].

Conclusions

Primary care providers, including those who specialize in geriatrics, want additional clinical skills for screening and basic treatment interventions. There is no substitute for good clinical assessment for depression, cognitive decline and other behavioral problems – exercised with attention to normal aging, culture, sexuality/lifestyle, and other diversity issues – and followed with evidence-based treatment. Approaches to care that use public health, service delivery and telemedicine innovations appear useful for patients, providers and caregivers. Access for “in-time” consultation with a general psychiatrist, a geriatric psychiatrist and other interprofessional experts may be enhanced via telemedicine. Telemedicine also overcomes geographical, physical limitations and access to care obstacles. More research is needed for the care of geriatric patients with regard to cultural and diversity issues, implementation of additional models of care and telemedicine, and low-intensity, evidence-based approaches.

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Department of Psychiatry & Behavioral Sciences, Keck School of Medicine of the University of Southern California (USC).

Los Angeles County + USC Medical Center, Graduate Medical Education.

Department of Family Medicine, Keck School of Medicine of USC.

Department of Psychiatry & Behavioral Sciences, UC Davis School of Medicine.

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