Recognizing and Managing Geriatric Depression: A Two-Part Self-Learning Module Set

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Abstract

Introduction: The number of geriatric patients will increase dramatically over the next 2 decades, and providers across all specialties will need skills in diagnosis and management of common geriatric disorders. Geriatric depression is common and associated with significant psychiatric and medical morbidity yet is frequently not taught in clinical clerkships. To provide foundational knowledge on geriatric depression, we designed a two-part, online, self-learning module set for health professions learners. **Methods:** Learning objectives and content were chosen based upon consensus from a national panel of internal medicine and psychiatry clinician-educators. The two-part module set covers recognition of depression and use of screening tools for diagnosis, suicide assessment, patient education, and initial management approaches. Articulate software was used to create two complementary 20-minute modules that incorporate teaching points, interactive quizzes, and video clips of a clinician interviewing a standardized patient and her husband during the course of an initial clinical evaluation. **Results:** The modules were piloted with 11 senior medical students. Mean number of correct answers on 10 knowledge-test questions improved from 8.1 on pretesting to 9.4 on posttesting. On a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*), participants affirmed that the modules were easy to navigate (4.91) and increased understanding of geriatric depression (4.82) and that the videos added to the learner's understanding of objectives (4.64). **Discussion:** These modules can be used by learners in health professions schools to improve foundational knowledge in geriatric depression and prepare for advanced clinical work with older patients.

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Introduction

With longer life expectancy and the aging of the US population, a significant demographic shift is already occurring and impacting health care providers. Population projections estimate that by 2030 the percentage of adults over age 65 in this country will increase from 13% to 20%.[1] Yet the geriatric specialist physicians and geriatric psychiatrists now in practice are too few in number to care for the current population of older adults, and the gap between the number of specialty-trained geriatric clinicians and the number of older patients is expected to widen significantly more in the coming years.[2] About 14%-20% of older adults have significant mental health concerns.[3] In 2012, the Institute of Medicine issued the report *The Mental Health and Substance Use Workforce for Older Adults:*

In Whose Hands?[4] describing the burgeoning population of elderly in the US and the critical shortage of clinicians trained to meet their mental health care needs. It is clear that most geriatric mental health care in the years to come will be provided by nongeriatric specialists. Therefore, it is imperative for all medical students to have the requisite education in medical school to prepare them to address the mental health needs of their older patients.

Geriatric depression is common in the population, and older patients with late-life depression frequently present to primary care and internal medicine physicians. Prevalence rates for nonmajor depression are up to 15% in community-dwelling older adults, 25% in primary care outpatients, and 50%-70% in long-term care settings.[5] Geriatric depression is associated with significant medical comorbidity, especially cardiovascular disease. Older depressed patients have longer hospital stays,[6] longer recovery from surgery,[7] poorer outcomes after myocardial infarction,[8] and greater use of health care resources.[9] Rates of suicide are high among older, depressed patients, and older patients

with suicidal ideation are more likely to be seen by their primary care physician than by a psychiatrist.[10] Ability to recognize geriatric depression and to distinguish it from cognitive disorders in older patients is one of the key 26 competencies addressed in the AAMC Minimum Geriatric Competencies for medical students.[11] Recognizing geriatric depression, however, can be challenging for learners because older patients more frequently complain of somatic symptoms rather than mood symptoms and because many older depressed patients have cognitive symptoms.[12]

A consequence of the national shortage of geriatric psychiatrists is that many medical schools may lack the local expertise and resources needed to provide this crucial education. Lehmann, Blazek, and Popeo surveyed psychiatry clerkship directors nationally and found that 21% of responding medical schools lacked any specific instruction or clinical experience focused on geriatric psychiatry, while 14% of responding medical schools reported having no geriatric psychiatrist on the faculty.[13] Online learning modules can bridge this gap and have been shown to be an effective way to provide needed medical knowledge instruction, as well as simulated clinical exposure, in an engaging and asynchronous format for adult learners in the medical curriculum.[14,15]

In 2011, in recognition of the need for simulated cases to be available for clinical teaching in the psychiatry clerkship, the Association of Directors of Medical Student Education in Psychiatry (ADMSEP) formed the Clinical Simulation Initiative (CSI). The goal of the initiative has been to develop a series of self-learning modules appropriate for psychiatry clerkship students that psychiatry medical student educators could use as a supplement to classroom teaching and as an alternative clinical teaching modality if actual patient cases were unavailable for student learning. The CSI project used Articulate software to standardize presentation of learning material across modules and enhance the learning opportunity because of its ability to embed video clips of simulated patient scenarios in the modules. These modules were developed to be part of the ADMSEP library of CSI learning modules for medical students that the association encourages its members to use. They are designed to be used by third- or fourth-year medical students. They are also appropriate for students in other health care professions, such as nursing, physician assistance, or internal medicine and family medicine trainees in residency programs, to provide foundational medical knowledge in geriatric depression recognition and management.

Educational Objectives

By the end of the modules, the learner will be able to:
1. Identify the signs and symptoms of geriatric depression.
2. Discuss key aspects of the epidemiology of geriatric depression.
3. Use appropriate screening tools to help establish the diagnosis of depression in an older patient.
4. Describe the appropriate medical workup of a patient with geriatric depression.
5. Discuss the approach to addressing suicidal ideation in an older patient.
6. Discuss appropriate patient education regarding geriatric depression.
7. Describe the initial approach to treatment for an older patient with depression.

Methods

Articulate Storyline software was used to develop two companion online, self-learning modules on geriatric depression. The modules can be used on any computer or tablet device by opening the HTML files with the user's preferred browser. Part 1 (Appendix A) focuses on recognizing geriatric depression, and Part 2 (Appendix B) focuses on managing geriatric depression. The learning objectives for the modules were drawn from a set of geriatric psychiatry learning objectives for medical students that were developed by a multisite group of medical student educators/geriatric psychiatrists and have the endorsement of the American Association for Geriatric Psychiatry Teaching and Training Committee.[16] Each module is about 20 minutes in length. The decision was made to present the material in two parts in order to keep each module to a reasonable length to hold learner interest. The material assumes some general familiarity with what a mental status exam is and with the psychiatric interview, but otherwise, no specific prerequisites are required before viewing the modules.

Each module includes embedded, multipart video case vignettes featuring a standardized patient and her husband who present to their physician because of concerns about changes in her mood and behavior. The video vignettes in both Part 1 and Part 2 follow the same initial evaluation session of this patient and her husband by the physician. Each module contains background didactic textual material as well as interactive quizzes with answers and explanations for the learner. Many of the quizzes are based on information that the learner derives from the simulat-

ed case seen in the video vignettes. The video vignettes also provide opportunities to demonstrate best practices in patient care, including mental status exam assessment, suicide risk assessment, use of a standardized tool to assess for depression, and provision of initial education and counseling to a patient and family member. The two modules could be done by the learner at one sitting or at different times. Of note, the two modules were designed to be done sequentially, and the material presented in Part 2 assumes that the learner has already viewed Part 1.

Students complete a 10-item pretest derived from the learning objectives prior to starting the module set and then complete the same 10 items for the posttest (Appendix C) after viewing both Part 1 and Part 2.

Part 1 Module Content
- Introduction: module-set overview, introduction to the case, and learning objectives.
- Video clip 1: patient, accompanied by husband, presenting to physician with vague symptoms.
- Background: supplementary laboratory data for the case.
- Quiz 1: clues from case that suggest mood disorder.
- Text discussion: interactive presentation on epidemiology, risk factors, morbidity, and challenges in detection of depression in older adults.
- Video clip 2: physician asking questions about mood symptoms.
- Quiz 2: identifying patient case history most suggestive of depressive disorder.
- Quiz 3: identifying mental status features of case suggestive of depression.
- Quiz 4: identifying key elements that contribute to diagnosis in this case.
- Video clip 3: physician obtaining more history about impact of depression on patient's functioning at home and demonstrating use of the Personal History Questionnaire-2 (PHQ-2) tool in assessment.
- Text discussion: use of the PHQ-2 as screening tool for depression.
- Video clip 4: further interview demonstration exploring more symptoms of depression.
- Text discussion: use of the PHQ-9 tool to make diagnosis of depression.
- Text discussion: interactive text about distinguishing major depression from demoralization.
- Quiz 5: distinguishing major depression from demoralization.

- Quiz 6: making the diagnosis in this case.
- Summary: review of key points and setting the stage for Part 2.
- References: list of references cited by superscripts in the module.

Part 2 Module Content
- Introduction: learning objectives and review of patient case from Part 1.
- Case history: background medical history, medications, and social history.
- Video clip 1: physician educating patient and husband about diagnosis of depression.
- Quiz 1: important points to discuss with patient about depression diagnosis.
- Quiz 2: appropriate medical workup for late-life depression.
- Video clip 2: physician performing suicide risk assessment of patient.
- Quiz 3: developing a safety plan for patient with suicidal thoughts.
- Quiz 4: risks for suicide in patient case.
- Video clip 3: physician discussing safety plan with patient and husband.
- Video clip 4: assessing executive dysfunction and memory concerns of patient.
- Quiz 5: executive dysfunction in older patients with depression.
- Quiz 6: management of executive dysfunction in older patients with depression.
- Video clip 5: initiating pharmacotherapy for depression.
- Text discussion: interactive text on selective serotonin reuptake inhibitors (SSRIs).
- Text discussion: interactive text on psychotherapy approaches for late-life depression.
- Video clip 6: final scene, giving hope to patient and husband.
- Summary: review of key points.
- References: list of references cited by superscripts in the module.

Results
This module set was presented at the ADMSEP annual meeting in 2015 as part of the CSI demonstration table. Meeting attendees were invited to view the modules as a work-in-progress on computers that were set up on tables along with other completed CSI self-learning modules during the two main poster sessions. Attendees who viewed

the modules were invited to leave anonymous, open-ended, written feedback about their impressions of the modules, their strengths and weaknesses, and any suggestions for improvement. Attendees at the ADMSEP annual meeting are predominantly psychiatry medical student educators who direct or teach in the psychiatry clerkship or who direct or teach first-year behavioral medicine courses to medical students. Some meeting attendees are trainees, including residents interested in medical education.

Feedback from ADMSEP attendees about Part 1 included the following:

- "This is an excellent module, appropriate for the medical student learner."
- "The module can be useful in thinking about depression in general, not just in the elderly."
- "This took me only 10 minutes (expert rather than novice) so even if it takes students two times as long, it will hold their attention. Thank you for your hard work!!!"

Feedback from ADMSEP attendees about Part 2 included the following:

- "Suicide risk assessment is fantastic!"
- "Regarding what three tests would you choose, I wonder if this is the place to introduce the ECG. They have not gotten to the point of thinking about treatment. The presumption that the student is already thinking about an antidepressant may too big a jump?"
- "Do you think the cognitive evaluation should come before the diagnosis of depression? My overarching concern is that the cognitive assessment occurs after the diagnosis of depression is made. It is part of the

evaluation not management."
- "Common SSRI meds and doses don't open."
- "Drugs and psychotherapy—should this be first so psychotherapy doesn't look like an afterthought?"
- "The second module is considerably longer than the first one."

As a result of feedback from the ADMSEP annual meeting attendees, a number of revisions were made in the module set. First, content in both modules was adjusted and, in Part 2, trimmed to make the modules more comparable in length. Second, the order of material in Part 2 was rearranged such that the diagnosis of depression is clearly made and the process of making the diagnosis is more clearly stated before discussion of cognitive assessment is discussed and described. Consideration was given to switching the order of presentation of drugs and psychotherapy approaches, but it was decided to maintain the original order of presentation since an actual evaluation session with a patient would likely focus on antidepressant medication first, followed by plans for psychotherapy in combination with the medication.

The two-part geriatric depression module set has been piloted with 11 medical students. The mean number of correct answers on the pretest was 8.1. The mean number of correct answers on the posttest was 9.5. In addition, all students provided anonymous feedback via Survey Monkey. Deidentified data from the Survey Monkey tool were collated by an ADMSEP faculty colleague on the ADMSEP CSI Task Force. Students were asked to rate their agreement with six statements on a 5-point Likert scale (1 = *Strongly Disagree,* 5 = *Strongly Agree*). For the results, see the Table.

Table. End of Module-Set Feedback (*N* = 11)

Statement	*N* (%) of Students Choosing Rating[a]		Weighted Average
	Agree	Strongly Agree	
The modules were easy to access.	3 (27.27%)	8 (72.73%)	4.91
The interactive slide features were easy to navigate.	2 (18.18%)	9 (81.82%)	4.73
The learning content followed a logical sequence.	2 (18.18%)	9 (81.82%)	4.82
The learning content increased my understanding of geriatric depression.	2 (18.18%)	9 (81.82%)	4.82
I anticipate using the information in my future patient care.	2 (18.18%)	9 (81.82%)	4.82
The videos added to my understanding of the learning points.	2 (18.18%)	8 (72.73%)	4.64

[a]Ratings were made on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*).

Students were also asked to rate the length of the two-part module set on a 5-point Likert scale (1 = *Too Short,* 5 = *Too Long*). All students (100% of respondents) rated the length as 3, or *Appropriate.*

Free-text feedback from the student participants included these comments:

- "Excellent, interactive modules! If possible, work on audio of video clips—there was continuous background hum that was somewhat distracting. Also for the questions with multiple checkboxes, provide an easy way to advance to answer explanation if incorrect."
- "For some reason, the list of SSRI's and dosing wasn't really working—it just gave the prompt to click on other stickys. Would have liked to see more specific pharmacotherapy suggestions."
- "Some of the quiz questions felt vague, or like multiple answers would apply. I would suggest that the questions could be a bit more direct."
- "Reference links did not work."
- "I wasn't able to click on the blue links in the first module to go to PubMed! It also might be nice to link to a PHQ-9 form."

Based on feedback from the medical students who piloted the two-part module set, additional revisions were made. These included fixing the glitch in the SSRI slide so that all items in the slide worked by revealing another content layer when the viewer clicked on them, and removing the reference hyperlinks after we were unable to get them to link the learner to the internet and access PubMed. Instead, references are now listed at the end of the modules. Revisions were made to a number of slides to reword quiz questions so that they were clearer.

It was not possible to change the audio volume of the video vignettes, but viewers can use an amplifier on their individual computer or tablet to enable the sound to be clearest for their device.

Discussion
This two-part, self-learning module set on recognizing and managing geriatric depression was favorably reviewed by medical students who piloted it and by psychiatry medical student educators at the ADMSEP annual meeting in 2015. Both students and educators felt the modules were appropriate for medical student learners, were a comfortable

and reasonable length in duration, and were effective in engaging the learner and imparting important foundational knowledge about geriatric depression. The Articulate software program was easy for the learners to navigate and intuitive to use. Feedback from the reviews has been used to make revisions to improve the clarity of content, balance the length between the two modules, and correct glitches in the slides. While it would have been convenient for learners to be able to click on hyperlinks embedded in the modules in order to access references directly on PubMed, it was not possible to make this work with the Articulate software package. Instead, the learner will find cited references listed at the end of each module that can be pursued for additional reading and more in-depth understanding of the concepts presented.

This module set is appropriate for third- and fourth-year medical students and has many advantages for use during the clinical years of medical school. Since geriatric patients with depression present in many medical settings, the modules could be used during the psychiatry clerkship, medicine clerkship, or family medicine clerkship, or during a geriatrics or ambulatory care elective. They can be used for independent learning by students, as preparation for clinical exposure to older patients in the outpatient setting, or by educators to provide background information in preparation for a flipped classroom didactic discussion focused on depression across the life span. For schools that lack clinical opportunities for clerkship students to engage with elderly patients, the modules can serve as an alternative educational exercise to learn about the care of geriatric patients.

The embedded video vignettes in the two modules, which follow the case of a standardized geriatric patient during an initial evaluation with her physician, constitute a unique feature that has distinct didactic benefits for learners. Because many medical schools may lack a geriatric psychiatrist on the faculty who is available to teach medical students, these modules provide an alternative way of giving students the benefit of watching an expert interview of an older patient. Through the video vignettes, learners have the opportunity to observe how an experienced physician asks sensitive questions, such as inquiring about suicidal ideation. They can also observe how an experienced physician educates the patient about her diagnosis and the initial steps in management.

The video vignettes serve an additional function as well in these modules. At various points in the modules, the

learner is asked to use information gained from watching the video clips to answer questions. For instance, learners are asked to recall features of the patient's mental status exam presentation and to note how the husband's contribution to the physician's history taking becomes critical in helping the physician make the correct diagnosis. These interactive features help to bring the case to life, as they simulate real-world patient-physician interactions, and can aid learners in improving their skills in mental status exam assessment and psychiatric interviewing.

Finally, while the two-part module set was designed with the undergraduate medical student in mind, the modules could be effectively used by medical educators of students in advanced nursing programs and physician assistant programs. The modules would also be appropriate for use by junior residents in medicine and family practice training programs. Students in all of these settings certainly also encounter and treat geriatric patients with depression and can benefit from these modules to improve their care of older patients.

Keywords
Depression, Geriatrics, Curriculum

Appendices
A. Part 1 Recognizing Geriatric Depression folder
B. Part 2 Managing Geriatric Depression folder
C. Pre- and Posttest.docx

All appendices are considered an integral part of the peer-reviewed MedEdPORTAL publication. Please visit www.mededportal.org/publication/10537 *to download these files.*

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