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Developing Health Literacy Communication Practices for Medical Students

Melanie Stone, MPH, MEd*, Oralia Bazaldua, PharmD, Jason Morrow, MD, PhD

*Corresponding author: stonem@uthscsa.edu

Abstract

Introduction: Health literacy and its associated communication practices are critical to patient-centered care and have been endorsed by various associations as important for health professional training. Unfortunately, there is little published literature on how to teach health literacy to medical students and health professionals. **Methods:** We developed a two-part curriculum during a required module for medical students including an introductory session in their first year and a skill-building workshop in their second year. In the workshop, students studied, observed, and practiced three health literacy communication techniques: teach-back, avoiding jargon, and effective questioning. **Results:** The workshop was implemented with approximately 100 second-year medical students as part of a course in their required curriculum. Results of a Wilcoxon rank sum test of pre/post survey responses showed a statistically significant move towards conviction of importance and confidence in ability to use three health literacy techniques. **Discussion:** A skills-based workshop on health literacy skills can improve medical students' conviction and confidence in using health literacy communication practices.

Keywords:
Health Literacy, Communication, Communication Skills

Educational Objectives

By the end of this activity, learners will be able to:

1. Discuss the benefits of using three health literacy communication practices: teach-back, avoiding jargon, and effective questioning.
2. Observe demonstration of three health literacy communication practices (teach-back, avoiding jargon, and effective questioning) by role models and peers.
3. Demonstrate three health literacy communication practices: teach-back, avoiding jargon, and effective questioning.

Introduction

Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.[1] However, only 12% of adults have the health literacy proficiency required to navigate the health system.[1] Low health literacy is linked to poor health outcomes and higher health care costs.[1] Health literacy practices are a key element of effective communication between patients and health professionals, leading to higher-quality patient-centered care.[2] Therefore, health literacy training is imperative for health professional education. Accrediting organizations such as the American Association of Colleges of Nursing and the Accreditation Council for Graduate Medical Education endorse training health professionals to recognize and address health literacy. National guidelines have called for health professionals to be trained to effectively communicate with patients with low health literacy.[3-5] Unfortunately, little concrete guidance has been given on how to achieve this call.

The published literature on the topic of teaching health literacy skills in health science education is sparse. PubMed was searched for relevant articles using the terms *health literacy* combined with *professional education* or *curriculum.* Further articles were identified by examining the reference lists of all included articles and by hand-searching the journals *Health Literacy Research and Practice* and *Health Communication*. The time period searched was 2004-2019, and 22 articles were returned. The articles discussed teaching health literacy to a variety of health professions: medical, nursing, dental hygiene, and pharmacy. A variety of approaches were described, but the methodologies typically followed the same format: a didactic lecture on the prevalence and consequences of low health

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literacy, including active learning aimed at improving skills in health literacy and communication techniques. Evaluation measures focused on improvement in knowledge of health literacy and skills and on confidence in ability to care for patients with low health literacy. Of these 22 articles, only seven specified teaching health literacy in medical education, and the specific interventions targeted third- and fourth-year medical students and residents.

Some authors have suggested that health literacy is not being adequately taught in US health professions schools.[2] We aimed to fill this gap early in medical education. We embedded a 2-hour session for first-year medical students in their required curriculum beginning in 2015, as part of the Medicine, Behavior, and Society (MBS) preclinical module, a course focusing on ethics, health policy, and social determinants of health, among other topics. By introducing the concept of health literacy in the first year of medical school, we underscored its importance as a foundational concept throughout professional training. The first hour of the session was an interactive lecture that introduced the concept of health literacy and the scope of the problem. The second hour was a skill-building workshop that introduced the technique of teach-back with a small-group, case-based, role-playing activity. We focused on teach-back as a core skill because the evidence base for confirmatory communication techniques (e.g., "Show me how you will take your insulin") was strong and because it was a top consensus recommendation among health literacy experts.[6]

Principles of adult education encourage the concept of reinforcement, and repeat messages are helpful in making learning stick and in changing habits. Based on health literacy curricular research, it is recommended to teach health literacy practices in a longitudinal, integrated format, rather than a onetime session.[7] Therefore, we added an additional 2-hour workshop for second-year medical students in the MBS course that built upon the first-year session by briefly reviewing health literacy and teach-back and introducing two additional skills ranked in the top three to teach students: avoiding jargon and effective questioning.[6] The three communication skills were practiced in small-group role-playing cases. This publication discusses the latest iteration of the Health Literacy: Communication Skill-Building Workshop that was implemented for second-year medical students.

Methods

We developed the workshop based on previous experience teaching health literacy. The workshop was taught by two presenters: a professor in the Department of Family & Community Medicine and the assistant director of community service learning. Additionally, six promotores from the county hospital's health system helped with the role-playing demonstration and shared their health literacy experiences.

In preparation for the session and as a review of basic health literacy concepts from the previous year, students were asked to complete a preassignment (Appendix A), which included reading two articles[8,9] and watching a brief video.[10] The format of the 2-hour workshop, detailed in Appendix C, was (1) a didactic component that reviewed and taught three health literacy communication techniques through a 30-minute PowerPoint presentation (Appendix B); (2) modeling through a 30-minute whole-group live demonstration of a health literacy scenario; (3) 15 minutes of case-based role-play practicing health literacy communication skills (Appendix D), including observation and feedback (Appendix E); and (4) a 25-minute debrief/reflection period. Time was included at the beginning and end of the workshop for the students to complete the pre/post survey (Appendix F). The didactic portion of the workshop, delivered by the facilitator, was a brief PowerPoint presentation that presented research backing the prioritization of the top 32 health literacy best practices.[6] The PowerPoint reviewed teach-back, which had been introduced to and practiced by the students in the previous year, and introduced jargon and questioning, showing examples through brief video clips.

In order to reinforce learning through a variety of modalities, the rest of the workshop consisted of modeling, discussing, and role-playing cases. The cases were adapted from scenarios in the publication *Scenarios for Success in Patient Communication: A Training Guide for Healthcare Providers*.[11] First, there was a whole-group case demonstration of an interaction between a health care provider and patient that ignored health literacy principles. This was followed by the same case demonstrated with a health literacy–appropriate interaction. A facilitator managed the discussion with the students. The health care provider and patient roles were played by trained faculty, residents, community member volunteers, and standardized patients who rehearsed the scenario. For our session, we invited a group of community health workers (promotores), and one of them performed the patient role during the whole-group case demonstration, portraying real-life community members that she helped in her work every day. We also had a few pharmacy residents who were shadowing our pharmacy faculty instructor join the session.

Another bad case was then modeled for the whole group, but this time, it included interaction with the audience. After presenting one run of the case by the two actors, it was repeated, with the

students now encouraged to interject. They raised their hands to step in at any point in the scenario where they felt they could perform the scene in a better, more health literacy–sensitive way. When the facilitator saw a student's hand go up, she froze the scene, and the student replaced one of the actors. Typically, the student replaced the health care provider actor and engaged with the patient actor using the healthy literacy communication techniques being taught. After a brief, whole-group discussion about the experience, students were asked to partner with the person sitting next them to practice two more scenarios using the three health literacy communication skills, with one student in the role of health care provider and one as patient. The students then switched roles for the second case. The student who played the patient used an observation tool (Appendix E) to note and share feedback on the use of the health literacy communication techniques by the student playing the provider. Facilitators (faculty, invited guests) walked around the room, approaching student pairs to help facilitate their interactions. The last activity of the session was for the whole group to reflect on the session's activities, specifically, the importance of and comfort with using health literacy communication practices with patients. The reflection period allowed health care providers, community health workers, and others who joined the session to share stories of their patient encounters that stressed the importance of health literacy.

We developed a pre/post survey based on standard conviction and confidence scales. The six-question survey was administered to students at the beginning of the session. The questions were designed to gauge the students' conviction and confidence using the three health literacy communication practices: teach-back, avoiding medical jargon, and using effective questioning techniques. All questions used a 7-point Likert scale (1 = *strongly agree,* 2 = *agree,* 3 = *somewhat agree,* 4 = *neither agree nor disagree,* 5 = *somewhat disagree,* 6 = *disagree,* 7 = *strongly disagree*). The same exact survey was administered postsession. The survey analysis was performed using SPSS software (IBM SPSS Statistics v25). The Wilcoxon signed rank test was used to test for significance.

After completion of the MBS course, the students were asked to complete a course evaluation that included 11 questions about the health literacy workshop. All questions used a 4-point Likert scale (1 = *strongly disagree,* 4 = *strongly agree*). Students who marked N/A did not receive a value. Students could also write comments.

The workshop can be implemented among medical students by themselves or interprofessionally with students in the other health care professions. It can also be implemented with residents and faculty. The preferred instructors are those with experience in working with patients with low health literacy. The optimal timing for the workshop is 2 hours, but adaptations can be made as needed to shorten the time, such as removing the whole-group case demonstration and discussing it in the PowerPoint only. Depending on space, this activity could also be done in small groups of three, with one student playing the provider, one playing the patient, and one being the observer.

Results

Although attendance was not recorded by the presenters, it is assumed that approximately 100 students (out of a student body of 210) attended the workshop, as evidenced by the number of responses received (100) to the pre/post survey administered by paper at the start and end of the session. In comparing responses pre- and postworkshop using the Wilcoxon rank sum test, we found a statistically significant shift towards stronger agreement. This change was statistically significant for all questions at a minimum of $p < .05$. The survey data are presented in the Table.

The course evaluation revealed a mean of 3.3-3.4 out of 4.0 for all 11 Likert-scale questions, indicating that the majority of students responded positively (*agree* or *strongly agree*) to all questions. The majority of comments (21 out 28) alluded to the fact that the students felt they had already learned this information very well in the introductory 2-hour health literacy session we conducted during their first year, so they were not overly receptive to addressing the topic again. For example, a student stated, "It seemed to be a repetition of our first health literacy session. I think it would have been better if both of these sessions were done together in a 2-hour session." As educators, we feel that repetition is key to adopting practices, but moving forward, we will consider modifying the session for the second-year students so that the content review takes place as a presession online, thus allowing the in-person session to be entirely practice of skills. Overall, however, student comments indicated that our lectures on health literacy were well received and that the information was retained. Other course comments were positive; for example, "I learned a lot!" and "I think it was helpful having a representation of the different techniques."

Discussion

Our review of the literature on health literacy indicates that the training of health professionals on this topic is understudied.[2,12] This includes the impact of such training on specific health professions students and the ideal timing and duration of targeted curricular interventions and workforce education

Table. Health Literacy Pre/Post Survey Questions

Question	No. (%)							*p*
	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree	
I am convinced that it is important to use teach-back (ask patients to explain key information back in their own words).								
Pre (n = 99)	62 (63)	28 (28)	6 (6)	2 (2)	0 (0)	0 (0)	1 (1)	.004
Post (n = 98)	80 (82)	14 (14)	1 (1)	0 (0)	0 (0)	1 (1)	2 (2)	
I am confident in my ability to use teach-back (ask patients to explain key information back in their own words).								
Pre (n = 99)	21 (21)	45 (46)	31 (31)	2 (2)	0 (0)	0 (0)	0 (0)	.000
Post (n = 98)	58 (59)	33 (34)	4 (4)	1 (1)	0 (0)	1 (1)	1 (1)	
I am convinced that it is important to avoid medical jargon in a patient encounter.								
Pre (n = 99)	53 (54)	37 (37)	7 (7)	1 (1)	0 (0)	0 (0)	1 (1)	.000
Post (n = 98)	85 (87)	10 (10)	1 (1)	0 (0)	0 (0)	1 (1)	1 (1)	
I am confident in my ability to avoid medical jargon in a patient encounter.								
Pre (n = 98)	21 (21)	43 (44)	32 (33)	0 (0)	1 (1)	0 (0)	1 (1)	.000
Post (n = 97)	53 (55)	35 (36)	6 (6)	0 (0)	1 (1)	2 (2)	0 (0)	
I am convinced that it is important to use effective questioning techniques.								
Pre (n = 97)	54 (56)	36 (37)	5 (5)	1 (1)	0 (0)	1 (1)	0 (0)	.002
Post (n = 96)	75 (78)	17 (18)	0 (0)	1 (1)	0 (0)	2 (2)	1 (1)	
I am confident in my ability to use effective questioning techniques.								
Pre (n = 96)	9 (9)	42 (44)	37 (38)	6 (6)	2 (2)	0 (0)	0 (0)	.000
Post (n = 96)	48 (50)	36 (38)	7 (7)	2 (2)	0 (0)	2 (2)	1 (1)	

planning.[12] Our workshop represents a novel contribution and study in these areas. The pre/post survey results of the workshop indicate that the majority of workshop participants either sustained or showed an improvement in both their conviction and confidence in using the top three health literacy practices. These data are statistically significant.

The challenge for most medical and health science schools is to find time in the curriculum to conduct this workshop. We have been fortunate to include it as a module in the required MBS course spanning years 1 and 2 of medical school at our institution. Regarding implementation, we found it beneficial for the actors demonstrating the two whole-group case scenarios to rehearse beforehand. Since there are at least three facilitators involved (the two actors and the moderator), it is advisable to have one or more advance planning meetings to discuss roles and topics that each person will handle. We recommend that the moderator take the lead in transitioning activities and giving instructions to the students during the session to avoid confusion on roles.

A limitation of our assessment is that only about half of the student body attended the workshop (or completed both surveys), despite its status as a mandatory session. Another limitation is that the assessment used self-report data and took place right before and after the workshop. To assess the long-term effects of this intervention, we plan to develop and implement, with the support of a recently awarded grant, an interprofessional health literacy objective structured clinical exam for fourth-year medical students. These data will contribute to the sparse literature regarding health literacy curricular evaluation. Anecdotally, since bringing health literacy into the medical curriculum at our institution, we have witnessed a shift in the culture of health literacy awareness and practice. While a causative link cannot be made, we have noticed students increasingly speaking about and focusing on health literacy, especially the teach-back technique, in other venues such as community service learning projects. If our observations are representative of student habits in clinical interactions, then perhaps the introduction of health literacy awareness and skill building early in the course of medical education should be the norm.

Appendices

A. Preassignment.docx

B. Presentation.pptx

C. Agenda.docx

D. Cases.docx

E. Observation Tool.docx

F. Pre-Post Survey.docx

All appendices are peer reviewed as integral parts of the Original Publication.

Melanie Stone, MPH, MEd: Assistant Director, Community Service Learning, Center for Medical Humanities & Ethics, The University of Texas Health Science Center at San Antonio

Oralia Bazaldua, PharmD: Professor/Clinical, Department of Family & Community Medicine, The University of Texas Health Science Center at San Antonio, and Department of Pharmacotherapy & Pharmacy Services, University Health

Jason Morrow, MD, PhD: Associate Professor of Medicine and Howard and Betty Halff Professor for Medical Humanities & Ethics, The University of Texas Health Science Center at San Antonio

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