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Original Research

Provider and patient perception of psychiatry patient health literacy

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Abstract

Background: Inadequate health literacy in adults is a nationwide issue that is associated with worse health outcomes. There is a paucity of literacy regarding rates of inadequate health literacy in psychiatric populations.

Objective: The aim of the study was to identify an existing tool that would easily identify patients who had inadequate health literacy, so that a targeted intervention could be performed. Secondly we attempted to compare rates of inadequate health literacy with providers' perception of patients' health literacy.

Methods: We assessed health literacy in a psychiatric population by administering the Brief Health Literacy Survey (BHLS). Additionally, all psychiatry residents, psychiatrists, nurse practitioners, pharmacists, and social workers were surveyed to assess their perception of patient health literacy. Differences between patient health literacy and provider expectations of patient health literacy were compared.

Results: Inadequate health literacy was identified in 31 out of 61 patients (50.8%) using 2 questions from the BHLS. Only 9 (29%) of patients who were identified as having inadequate health literacy were identified by both BHLS questions. In contrast, almost 100% of providers identified their patients, in general, as having inadequate health literacy.

Conclusions: These results identify a higher rate of health literacy in a psychiatric inpatient population than in the general population. However, providers at this institution likely over-identify health literacy. This highlights the need for a health literacy tool that can easily target patients with inadequate health literacy for an intervention.

Keywords

Health Literacy; Health Knowledge, Attitudes, Practice; Perception; Mental Disorders; Health Personnel; Mental Disorders; Surveys and Questionnaires; United States

INTRODUCTION

Adequate health literacy requires patients to be able to make an informed decision regarding their health based on a understanding of health care information.¹ According to the 2003 National Assessment of Adult Literacy Survey (NAAL), a large scale national assessment in the United States to measure health literacy in adults aged 16 and older, 36% of the adult population in the United States had inadequate health literacy.² An international study from 33 countries reported on average 18.5% of adults had poor reading skills and 22.7% had poor numeracy skills.³ In the United States, rates of inadequate health literacy were even higher in the elderly, minorities, individuals who did not finish high school; individuals in whom English was not their primary language; and those living in poverty.^{2,4} Identifying inadequate health literacy is important because it is associated with worse health outcomes including hospitalization; unhealthy behaviors, including inappropriate medication use; and increased mortality.⁵⁻⁷

There are several studies and measurements that assess the level of general health literacy in various patient populations.⁸⁻¹¹ The Test of Functional Health Literacy in Adults (TOFHLA) is one of the most commonly used health literacy scales in research and was designed to measure health literacy by measuring ability to read and understand commonly encountered things in the health care setting (e.g. pill bottles and appointment slips). The TOFHLA is a 50-item reading comprehension and 17-item numerical ability test that can take up to 22 minutes to administer.¹¹ The Short Test of Functional Literacy in Adults (S-TOFHLA) was developed from the TOFHLA by reducing the Numeracy and Prose passages. S-TOFHLA is also a standard research health literacy instrument with 2 sections worth up to 100 points total and takes up to 12 minutes to administer.¹⁰ It is not always practical to administer these scales in a clinical setting due to time constraints and the need to train staff to properly administer them, which led to the development of a scale that could be utilized in a clinical setting. Chew et al. used S-TOFHLA to validate Likert-scale questions in a Veteran Administration (VA) outpatient population.¹² Inadequate health literacy (S-TOFHLA scores of 0-16) was found to correlate with responses of 3 of the survey questions when validated with the S-TOFHLA.^{10,12} The 3 questions were not as effective for detecting patients with marginal (S-TOFHLA score of 17-22) health literacy. These 3 questions, also known as the Short Literacy Survey (SLS) and the Brief Health Literacy Screen (BHLS) in other studies, have since been validated against the S-TOFHLA and Rapid Estimate of Adult Literacy in Medicine (REALM), another validated health literacy tool, in various other inpatient and outpatient populations.¹³⁻²⁰ The BHLS questions take 1.5

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minutes to administer and can be administered verbally by a nurse without training. The BHLS could be used to develop a practical method for identifying patients with inadequate health literacy in a busy clinical setting.¹² Identifying inadequate health literacy is important in the clinical setting because interventions designed at targeting inadequate health literacy have been shown to decrease emergency department (ED) visits and hospitalization as well as increase comprehension of health information.^{5,7}

METHODS

The Medical University of South Carolina Institutional Review Board for Human Research approved this study, which was conducted at the Institute of Psychiatry (IOP). IOP is a 96-bed inpatient psychiatric facility and is a part of a 750-bed tertiary-care, academic medical center. IOP contains 5 different psychiatric units: senior care, child/adolescent, general adult, acute care, and addictions. The child/adolescent unit was excluded from this study.

Separate patient and provider surveys were developed using the BHLS. These questions were chosen because they could easily be administered without investigator oversight in a busy clinical setting. The patient survey asked 2 demographic questions (age and high school completion) to identify patients in some of the high risk for inadequate health literacy groups, in addition to the BHLS questions. A report was generated with the total adult admissions during the patient survey month. The results were filtered for 3 groups at high risk for inadequate health literacy (elderly patients, minorities, and uninsured) to determine if the low health literacy rates captured with the BHLS was similar to the rate of inpatients that were at high risk of low health literacy. The provider survey asked 2 demographic questions (job title and length of time practicing) and the same 3 developed health literacy questions the patients were asked. The providers answered the questions according to the provider's perception of general patients' health literacy.

A paper survey was provided to adult inpatients over a 4-week period based on their inpatient room number. Patients are assigned to rooms randomly on admission based on availability. The patients selected to participate in the survey were chosen according to their hospital room number, with patients in even room numbers given the survey weeks 1 and 3 and patients in odd room numbers given the survey weeks 2 and 4. Even and odd room numbers were alternated to prevent the same patients from getting the survey multiple times. The survey contained a question that asked if patients had completed the survey previously; if they had, the results were excluded to prevent using the same patient's responses more than once. The surveys had numbers at the top to track how many surveys were distributed and how many were returned, but patients were instructed not to put any identifying information on the survey. The patients could place their completed surveys in a receptacle that was left in the nursing area on the day of the week surveys were distributed. However, patients and staff were instructed that patients could return the completed survey to staff at

any point during their inpatient admission even if the receptacle was not present on the inpatient unit.

An anonymous RedCapTM electronic survey was sent to psychiatry residents, psychiatrists, nurse practitioners, and social workers to assess providers' perception of patients' health literacy and the providers were given three weeks to respond. A reminder email to complete the survey was sent to providers one week after the survey was launched.

Using previously validated studies, if a patient or provider answered 'always', 'often', or 'sometimes' to either 'How often do you have someone help you read hospital materials?' or 'How often do you have problems learning about your mental health or medical condition?' that was considered to be inadequate health literacy.¹³⁻¹⁹

The primary outcomes of the study were to determine rates of inadequate health literacy at a single institution using a previously validated health literacy scale and to determine providers' perception of their patients' health literacy. The authors hypothesized that the providers would underestimate the rates of health literacy. Secondly the study assessed whether known groups to have higher inadequate health literacy (elderly and lower education) had different responses to the survey questions than those without risk factors. Ultimately the institution would like to implement a practical way to identify patients with inadequate health literacy upon admission and provide targeted interventions to improve health literacy in those individuals.

Mann Whitney U tests were used to compare ordinal, non-parametric data. Descriptive statistics were used for demographic information of patients and providers and also when comparing responses between patients and providers. The survey question 'How confident are you filling out medical forms by yourself?', and the matching provider question 'How confident are your patients filling out medical forms by themselves?' had to be discarded from analysis. The provided answers to the question, 'always', 'often', 'somewhat', 'occasionally', and 'never' are not measures of confidence and made the results of this question invalid.

RESULTS

Out of 204 total adult admissions to the inpatient psychiatric hospital in the survey month, 75% (152) were elderly, minorities, and/or uninsured patients and at high risk for inadequate health literacy.

Response rate for the patient survey was 46% with 61 surveys completed out of 134 surveys distributed. Ages of survey participants were distributed throughout the age categories with 25% (15) of participants in the > 65 age group (Table 1). The majority of respondents (82%) had completed high school and 90% of respondents were able to fill out the survey without assistance (Table 1). A total of 31 (50.8%) respondents had answers of either 'always', 'often', or 'sometimes' on at least 1 of the BHLS questions indicating inadequate health literacy. Out of those that had inadequate health literacy, 22 (71%) of respondents were identified as having inadequate health literacy by only one question, but not both.

Table 1. Patient demographic data (n = 61)		
Characteristic		N (%)
Age, years	18-29	12 (20%)
	30-39	8 (13%)
	40-49	10 (16%)
	50-59	6 (10%)
	60-65	10 (16%)
	>65	15 (25%)
High school completion	Yes	49 (80%)
	No	11 (18%)
	Chose not to answer	1 (2%)
Needed surveyor to fill out form	Yes	6 (10%)
	No	56 (90%)

For the question 'How often do you have someone help you read hospital materials?', 27.9% of the patient population answered 'always', 'often', or 'sometimes' indicating they had inadequate health literacy. However, a majority (52%) of patients responded that they 'never' need someone to read hospital materials to them, which was also the median response (Table 2). When comparing responses to this question between those who had graduated high school and those that had not, the difference between distributions of responses was not statistically significant. When comparing responses of those who were at least 60 years old with those who were less than 60, the distribution of responses was not statistically significant.

For the question 'How often do you have problems learning about your mental health or medical condition because of difficulty understanding written information?', 39.3% of patients answered 'always', 'often', or 'sometimes' indicating they had inadequate health literacy. The median response to this question was 'occasionally' with 41% of respondents reporting they 'never' have difficulties understanding written information (Table 2). When comparing patients' responses who had graduated high school with those who had not, the response distributions were statistically significantly different between the two groups ($P = .044$) with 8 of the 11 respondents (72.7%) who did not graduate high school indicating they had inadequate health literacy. When comparing the responses of elderly patients with those who were <65 years old, the response distribution was not statistically significant.

A total of 48 providers completed the provider survey out of 78 psychiatry residents, 20 social workers, 4 nurse practitioners, 17 attending psychiatrists, and 1 nurse manager for a response rate of 40% (Table 3). A majority (49%) of the respondents was psychiatry residents and 50% of respondents had been practicing for 1-5 years (Table 3). A majority (75%) of providers perceive patients 'often' need help reading hospital materials and 65% perceive patients 'sometimes' need help filling out medical forms. Most providers (65%) believe patients 'often' have problems understanding written information (Table 4).

Table 3. Provider demographic data (n = 48)		
		N (%)
Current job title	Attending psychiatrist	10 (21%)
	Nurse practitioner/Physician assistant	3 (6%)
	Pharmacist	4 (9%)
	Resident psychiatrist	23 (49%)
	Social worker	7 (15%)
	Chose not to answer	1 (2%)
Time practicing, years	< 1	5 (10%)
	1-5	24 (50%)
	6-10	5 (10%)
	11-20	6 (13%)
	>20	8 (17%)

Almost 97.9% of providers indicated that patients, in general, have inadequate health literacy on both the 'help reading' question and the 'difficulty understanding written information' question.

DISCUSSION

After an extensive search, no studies regarding health literacy rates in the U.S. psychiatric population were found. A study was done in outpatients with stable schizophrenia and depression in Australia and found inadequate health literacy was present in 1 patient in each group (6%); the national rate of inadequate health literacy was 2.6%.²¹ The authors surprisingly concluded that the rate of inadequate health literacy in the psychiatric patient population was similar to the national rate. The results are not necessarily externally applicable because most countries have a higher inadequate health literacy rate. In this study it was hypothesized that the rates of inadequate health literacy would be higher in the psychiatric patient population than the national rates. This hypothesis was supported by the high rates of patients admitted with risk factors for inadequate health literacy. Ultimately, inadequate health literacy rates in the psychiatric inpatients were almost double the national average.

The screening question 'How often do you have problems learning about your mental health or medical condition because of difficulty understanding written information?' seemed to better identify inadequate health literacy in the subpopulation of patients who had not graduated from high school and identified higher rates of health literacy than 'How often do you have someone help you read hospital materials?'. In other studies the single question 'How confident are you filling out medical forms by yourself?' had the highest reliability identifying inadequate health literacy out of the 3 questions.^{14,15,18} Unfortunately, due to a study design limitation the answers to that question were not a measure of confidence and, therefore, could not be analyzed. According to the results of this study, 'How often do you have problems learning about your mental health or medical condition because of difficulty understanding written information?' would identify higher rates of inadequate health literacy at this

Table 2. Patient responses to health literacy survey questions (n = 61)					
	N (%)				
	Always	Often	Sometimes	Occasionally	Never
How often do you have someone help you read hospital materials?	2 (3.3)	4 (6.6)	11 (18.0)	12 (19.7)	32 (52.5)
How often do you have problems learning about your mental health or medical condition because of difficulty understanding written information?	4 (6.6)	1 (1.6)	19 (31.1)	12 (19.7)	25 (41.0)

Table 4. Provider responses to health literacy survey questions (n = 48)

N (%)	Always	Often	Sometimes	Occasionally	Never
How often do you believe patients need someone to help them read hospital materials?	2 (4.2)	36 (75.0)	10 (20.8)	0 (0)	0 (0)
How often do patients have problems learning about their mental health or medical conditions because of difficulty understanding written information?	4 (8.3)	31 (64.6)	12 (25.0)	1 (2.1)	0 (0)

institution especially in populations with lower education.

In contrast to the actual results, almost 100% of providers believed that patients had inadequate health literacy. These results differ from another study in which medical residents perceived 90% of their patients to have adequate health literacy when in reality 36% of those patients failed the health literacy screen.²² However, this study was done with psychiatry residents in a psychiatric patient population instead of medical residents in a general medicine patient population.

The questions used in the survey had been validated in other populations, but had not been validated in a psychiatric population. Therefore, a validation study with the 3 survey questions in this patient population would have been valuable. However, that type of study would have been outside the scope of this project. The survey questions were not validated to identify marginal health literacy and some of the respondents possibly had marginal health literacy.¹² However, 75% of the admitted patient during the study period fell into at least 1 of 3 categories (i.e. elderly, minority, uninsured) that are associated with a high risk for inadequate health literacy.

Certainly 'psychiatric patient' encompasses many mental health diagnoses, and this survey did not capture which diagnoses were represented. It is possible that inadequate health literacy is higher in certain psychiatric diagnoses. It is also possible that the patients were given the survey while they were acutely ill, which could change the results. However, the intent of this study was to identify an appropriate screening tool that could be utilized as all patients are admitted which would include all psychiatric illness admitted and very probably acutely ill patients. Therefore, the survey better mimicked a 'real world' scenario by capturing results from all psychiatric illnesses in various stages of acuity.

Another limitation of the study is selection bias of surveys. Many of the patient survey participants may have been patients who have marginal to adequate health literacy and felt comfortable completing the survey, while the patients who elected not to complete the survey may have felt uncomfortable or embarrassed due to inadequate health literacy. The participants' 82% high school graduation rate seem to support the hypothesis that respondents had more education and therefore, likely, higher health literacy than non-respondents. The provider survey participants may have been more likely to fill out the survey if they believed their patients had health literacy issues. Additionally, the provider survey results may not be externally applicable due to the high proportion of resident providers at this facility.

The high rates of inadequate health literacy in this population and the discrepancy between patients' actual health literacy and provider's perception of health literacy highlight the need for tools to identify patients for targeted health literacy interventions.

CONCLUSIONS

The results of this survey show that a screening tool to identify patients who are at high risk for inadequate health literacy at admission could be useful if the information were used to flag the medical record to ensure patients identified as having inadequate health literacy receive an intervention.

CONFLICT OF INTEREST

None.

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