


A Survey Study Evaluating and Comparing the Health Literacy Knowledge and Communication Skills Used by Nurses and Physicians

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Abstract

Health literacy (HL) is considered as an interaction between the demands of health systems and the skills of individuals. The current global approach demands health professionals to be more accountable for universal precautions approach and improve communication skills, and employ strategies to confirm patients' understanding. The aim of this study is to assess the knowledge and attitude of health care professionals (HCPs) about HL and their communication skills, and its effect on their practices, and to compare the findings among subgroups of HCPs. An online cross-sectional survey involving 29 items was developed for sociodemographic and professional characteristics and knowledge, attitude, and practices evaluation. Health care professionals reached by occupational organizations and social media platforms. Among the 277 participants that answered the questions, 184 were physicians and 78 were nurses, and 37.99% of physicians and 18.42% nurses heard about the term "HL" through this survey. Most of the participants stated their willingness to receive information/training on the subject and that knowing HL level would change their approach to and outcomes of the patients. Nurses were using a variety of methods that improve communication with patients and considered HCPs' lack of knowledge of the concept of "HL" and their neglect of HL as obstacles to its evaluation more than physicians. These results emphasize the urgent need of initiatives to be taken to improve the awareness of HCPs of HL and the subsequent incorporation of these initiatives into the daily health care services they provide. Nurses' awareness of HL is higher and they are already better at incorporating HL-sensitive items into their practices. Both graduate and continuing education programs need to be modified to improve HL knowledge of all HCPs and its positive effects on health care. The current structure of the roles and responsibilities of these professions needs to be improved to make it more HL sensitive.

Keywords

attitude, awareness, decision making, continuing education, health communication, health literacy, health services needs and demand, health workforce, social skills, surveys

What do we already know about this topic?

Health literacy (HL) is a stronger predictor of an individual's health status than income, employment status, education level, and racial or ethnic group. Low HL is a global problem and in addition to its negative effects on the individual, it poses an economic burden on society.

How does your research contribute to the field?

Based on our research, health care professionals have limited awareness and knowledge of HL and its impact on the well-being of their patients. Awareness was not only higher among nurses, but nurses were more willing to improve themselves on the subject and also better at incorporating HL-sensitive items into their practices compared with physicians.

What are your research's implications toward theory, practice, or policy?

Our findings support the need for improving awareness of health care professionals on the detrimental effects of poor HL on individual patients and society. All shareholders need a change of mind-set to achieve people-centered health services and how health care professionals need to focus on their communication skills and quality by keeping in mind the effect and importance of HL.



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Introduction

Health literacy (HL) is defined as “the cognitive and social skills that determine the motivation and ability of individuals to gain access to, understand, and use basic information in ways that promote and maintain health.”¹ People need more than general literacy skills to be able to navigate the complexities of a health system.² Although there is considerable overlap between general literacy and HL, it is documented that even well-educated people can have limited HL.^{3,4} Health literacy requires reading, listening, analytical, and decision-making skills and the ability to apply these skills to situations related to health.^{5,6} Thus, asking patients only about their education level will not be sufficient to determine their HL status and accordingly modify one’s communication with them.

Health literacy is a stronger predictor of an individual’s health status than are income, employment status, education level, and racial or ethnic group.⁷ People with low HL demonstrate decreased compliance with medical information and medication, increased but ineffective health system use, more emergency room visits, higher medication use, and a higher risk of death.⁸⁻¹¹

In addition to the negative effects on the individual, low HL also poses an economic burden on society. The cost of low HL to the US economy is estimated to vary between US \$73 billion to US \$238 billion annually.¹²⁻¹⁴ Compared with the cost of life-long treatment for a type 2 diabetes patient, which is US \$85 000, and considering that ~30 million people of the US population have type 2 diabetes, low HL is an alarming public health problem that needs to be solved.¹⁵

According to a study conducted in the United States, 36% of adults have limited HL, and only 12% of the population demonstrates proficient HL.¹⁶ Limited HL rates are higher in certain disadvantaged population subgroups (older, minority, poorly educated, impoverished, etc).^{8,16} In another study that extracted 22 599 samples from the Medical Expenditure Panel Survey, 77.6% of the population was found to have intermediate HL, 20.9% had basic HL, 1.5% had below basic HL level, and none had proficient HL.¹⁷ The European health literacy survey (HLS-EU) demonstrated a similar result, with 47% of the population reported having limited (insufficient or problematic) HL. Limited HL is more frequently found in groups with low financial and social status, lower education, or older age.¹¹ Low HL is a global problem that affects other countries besides the United States and countries in the European Union.

Health literacy levels in the Turkish population have been measured in various surveys.^{9,10} In one study of 456 patients admitted to a family medicine clinic serving as a free primary health care unit in a suburban area of a metropolitan city, more than 40% of the patients were classified as having inadequate or marginal HL.⁹ A more comprehensive field study conducted in 7 regions of Turkey through home visits, which enrolled 4924 volunteers, was representative of the adult population of Turkey.¹⁰ Using the HLS-EU, the general HL index of this population was found to be 30.4, and the HL level for 64.6% of the population was inadequate (24.5%) or problematic (40.1%).¹⁰

The Organisation for Economic Co-operation and Development (OECD) conducted a survey in 28 member and 5 nonmember countries to assess proficiency in 3 domains, literacy, numeracy, and problem-solving, in technology-rich environments that included 5277 adults in Turkey.¹⁸ Compared with the other countries, the proficiency of Turkish adults was significantly below average in all 3 domains. Specifically, they scored 227 points on literacy (OECD average = 268 points) and 219 points on numeracy (OECD average = 263 points), and a majority of the adults showed no or only basic proficiency in problem-solving in technology-rich environments. Only Chile and Indonesia scored below Turkey. This survey indicated that workers in Turkey used information-processing skills at work and in their daily lives less often than workers in other countries.¹⁸

Considering these results, it would not be wrong to assume that low HL is an epidemic in Turkey, as it is globally.^{9,10,18} Accordingly, instead of an individual approach, it is more rational to consider HL as an interaction between the demands of health systems and the skills of individuals.¹⁹ The Institute of Medicine has stated that “HL is a shared function of social and individual factors, which emerges from the interaction of the skills of individuals and the demands of social systems.”²⁰ However, health care professionals’ (HCPs) knowledge of HL has not been assessed in detail. According to several studies evaluating the knowledge and attitudes of HCPs, their usage of HL practices, or both, the awareness of HL and practices of HCPs are limited.²¹⁻²⁵

The Turkish government has made increasing the HL level of the population a priority, and the Ministry of Health initiated a training program for family practitioners and family health center workers. However, there are no studies that reveal the basal HL knowledge and practices of HCPs. The

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Table 1. Sociodemographic Characteristics and Work-Related Information of Health Care Professionals.

| Characteristics | All health care professionals | Nurses | Physicians |
|--|-------------------------------|----------------|----------------|
| Age (mean \pm SEM, y) | 44.2 \pm 10.4 | 35.5 \pm 6.1 | 48.9 \pm 8.9 |
| Sex, No. (%) | | | |
| Female | 176 (63.5) | 72 (92.3) | 92 (50.0) |
| Male | 101 (36.5) | 6 (7.7) | 92 (50.0) |
| Workplace, No. (%) | | | |
| University hospitals | 84 (30.3) | 33 (49.3) | 44 (30.6) |
| Private hospitals | 60 (21.7) | 11 (16.4) | 47 (32.6) |
| Research and training hospitals | 41 (14.8) | 13 (19.4) | 27 (18.8) |
| State hospitals | 13 (4.7) | 7 (10.5) | 6 (4.2) |
| Occupational health units | 12 (4.3) | 2 (3.0) | 10 (6.9) |
| Others ^a | 67 (24.2) | 1 (1.5) | 10 (6.9) |
| Duration of employment (mean \pm SEM, y) | 19.4 \pm 10.3 | 12.6 \pm 6.7 | 23.0 \pm 9.9 |

Note. SEM = standard error of the mean.

^aCommunity health center, dental clinic, family health center, pharmaceutical company, pharmacy, and private clinic.

aim of this study, therefore, was to evaluate HCPs' awareness of HL and compare the findings among the subgroups of HCPs. A clearer picture of the status of HCPs, along with their weaknesses and improvement areas, can be provided, and a starting point for defining the initiatives to increase the awareness of HCPs on the subject can be determined.

Materials and Methods

This was designed as a quantitative, descriptive, and comparative study to determine the baseline awareness of HCPs and any differences among subgroups of HCPs. We designed an online survey using SurveyMonkey.com (SurveyMonkey, San Mateo, California). The survey Web page opened with information about the study and the definition of HL. The informed consent form page opened next, and only after consenting to voluntarily answer the questions by marking a checkbox, was the volunteer directed to the questions. The responses were collected anonymously and recurrence was prevented by Internet Protocol address limitation.

The survey was developed following a comprehensive literature review, which was conducted to evaluate the HL knowledge, communication practices, and perceived barriers of HCPs. Although some of the questions were selected from the literature, some new questions were also added in accordance with the aim of this study. We selected 8 questions to evaluate sociodemographic characteristics and work-related information, 9 questions to evaluate knowledge, and 12 questions to evaluate attitudes and practices. The number of questions for each participant varied between 26 and 29 depending on his or her answers.

Prior to the distribution of the survey instrument, content validity was examined among 5 expert panels—mainly academicians and senior employees of the university hospital. Before the distribution of the link, the survey was presented to a small group of HCPs (10 physicians and 10

nurses) to assess its feasibility and applicability. The pilot study data were used to revise the questions in terms of clarity and interpretability and to conduct a reliability analysis. Internal reliability of 0.87 was obtained for the knowledge of HL and communication practices using Cronbach alpha. An alpha value of 0.7 and above was considered significant.

The Ankara Chamber of Medicine and the Turkish Nurses Association sent the survey link to their members twice within an interval of 1 month. The survey could be retrieved from September 1, 2017, to December 1, 2017; however, most of the HCPs responded within 1 week. The link was also distributed via social media platforms.

Statistical analysis. Data collected online were evaluated for any discrepancies. The sociodemographic and professional characteristics and descriptive statistics of participants are presented as percentages. We compared the results of physicians and nurses (as the number of participants from these professions allowed for comparisons to be made) using the chi-square test, and 95% confidence intervals (CI) were calculated. Statistical significance was indicated by $P < .05$. Data were analyzed using SPSS version 25 software (IBM Corp., Armonk, New York).

Results

A total of 279 HCPs participated in the survey, and 277 consented to answer the questions. Of these, 184 were physicians, 78 were nurses, and the remaining 15 were other HCPs (6 dentists, 5 midwives, and 4 pharmacists). Sociodemographic characteristics and work-related information are presented in Table 1.

Of all the participants, 75.5% were located in Ankara. As one of the distribution channels was the Ankara Chamber of Medicine, 91.9% of the physicians were located in Ankara.

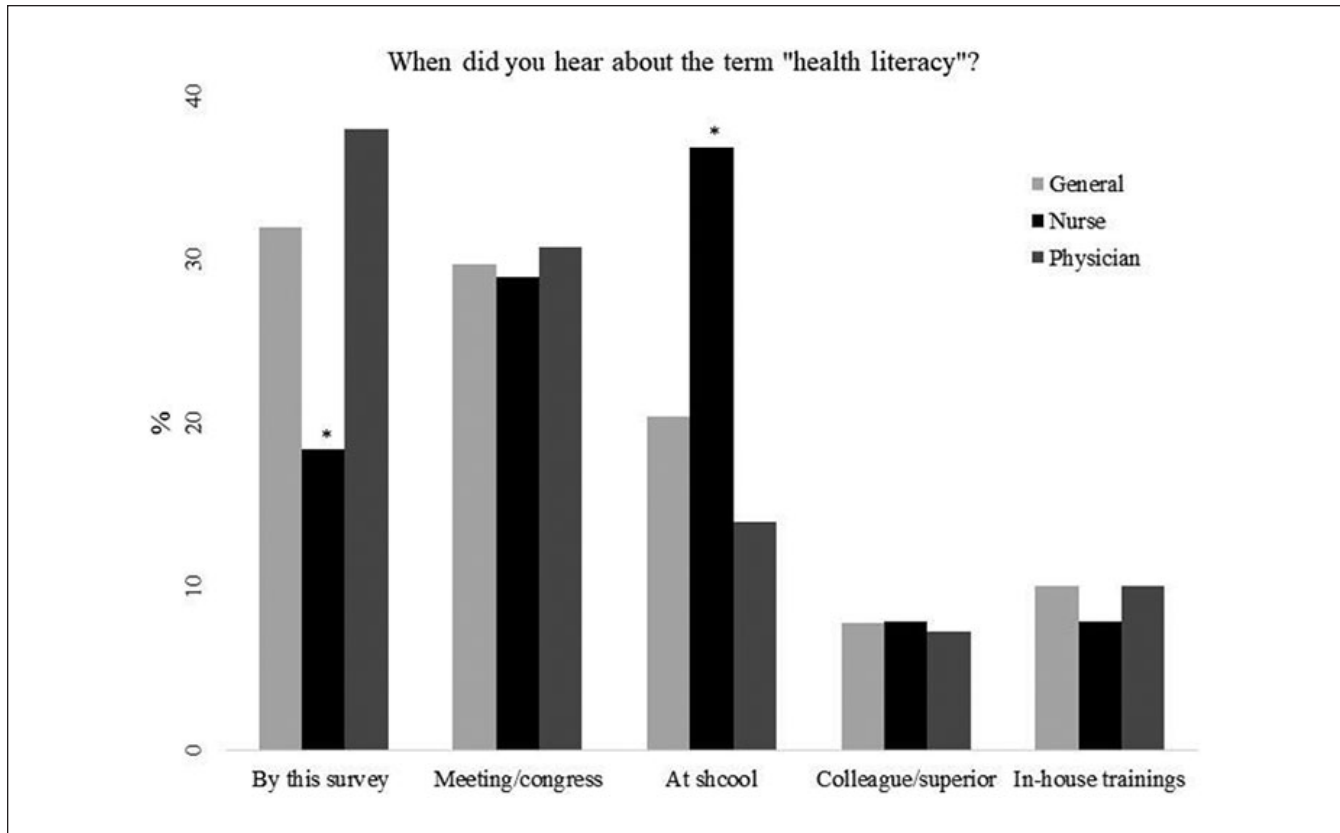


Figure 1. Participants' responses to the question "When did you hear about the term health literacy for the first time?"
* $P < .05$ when nurses were compared with physicians.

Nurses primarily received the survey from the Turkish Nurses Association. Nearly half of these nurses (42.3%) were residing in Ankara, and the rest were distributed across the country.

More than half of the physicians were specialists (55.8%). Although we received answers from nearly all specializations, the most common specializations were pediatrics (11.5%), public health (8.1%), anesthesiology and reanimation (6.1%), urology (6.1%), and gynecology and obstetrics (5.4%).

The participants' answers to the question "When did you hear about the term health literacy for the first time?" are shown in Figure 1. The percentage of nurses (18.4%) who heard about it through this survey was significantly lower than that of physicians (38.0%; $P = .002$, 95% CI = 7.52-29.6), and a significantly greater percentage of nurses (36.8%) than physicians (14.0%) first heard of it when they were students ($P < .0001$, 95% CI = 11.49-34.75) (Figure 1). Although more than half (53.5%) of the HCPs stated that HL was never mentioned during their education, when they were asked whether the importance of literacy/level of education of the patient was mentioned at school, only 29.7% of participants selected "never mentioned."

When participants were asked whether they had ever received any training regarding HL, 91.5% answered no and 81.8% stated that they would like to receive information/

training on the subject. Nurses were more willing to receive HL information/training than physicians (92.7% vs 77.3%, respectively; $P = .0032$, 95% CI = 5.71-23.10). The preferred methods of training were seminars or conferences (51.4%), printed documents (41.3%), online training (40.9%), or on-the-job training (40.9%).

When the participants were asked whether patients' HL should be evaluated, 78.0% responded "yes" and 84.7% stated that knowing the HL level might affect the diagnosis and treatment outcomes of patients. Moreover, participants thought that knowing the HL level of patients would change their approach (76.8%), the information they provide to the patients (65.4%), and influence their treatment success (68.1%). No significant difference was observed regarding these opinions between physicians and nurses.

The frequency of using methods that improve communication with patients and whether the participants think that the health system and work environment do not allow the use of such methods were also evaluated (Table 2). The most common methods that the participants stated that the health system does not allow and/or is not suitable to use were "providing the patient with informative/training material on the disease/drug/medical device specifically designed according to their HL level" (8.6%), "providing the patient an individualized, condensed health education session" (10.5%), and

Table 2. The Methods Used by Health Care Professionals to Improve Communication With Patients.

| Method | Never, % | Rarely/occasionally, % | Frequently/always, % | Health system does not allow, % |
|--|----------|------------------------|----------------------|---------------------------------|
| 1. Providing a shame-free comfortable environment | | | | |
| Nurses | 1.85 | 14.82 | 72.22* | 11.11* |
| Physicians | 1.37 | 8.9 | 86.31 | 3.42 |
| 2. Determining the last school from where the patient graduated | | | | |
| Nurses | 11.11* | 33.33 | 53.71* | 1.85 |
| Physicians | 32.19 | 37.67 | 28.77 | 1.37 |
| 3. Speaking slowly and clearly | | | | |
| Nurses | 1.85 | 7.41 | 90.74 | 0 |
| Physicians | 0 | 15.06 | 84.93 | 0 |
| 4. Using everyday language, free of medical terminology | | | | |
| Nurses | 1.85 | 1.85 | 96.29 | 0 |
| Physicians | 0.68 | 4.1 | 95.21 | 0 |
| 5. Describing/demonstrating how to use medication, the amount of medication to be taken at a time, and the frequency of taking the medication | | | | |
| Nurses | 1.85 | 1.85* | 94.44 | 1.85 |
| Physicians | 2.05 | 8.22 | 89.04 | 0.68 |
| 6. Providing written information about how to use the medication, the amount of medication to be taken at a time, and the frequency of taking the medication | | | | |
| Nurses | 1.85 | 24.08* | 72.23* | 1.85 |
| Physicians | 5.48 | 36.98 | 56.16 | 1.37 |
| 7. Reading and repeating the information and/or drug or medical device user guides together with the patient | | | | |
| Nurses | 12.96 | 29.63* | 50* | 7.41 |
| Physicians | 21.92 | 56.17 | 19.86 | 2.05 |
| 8. Providing the patient with informative/training material on the disease/drug/medical device | | | | |
| Nurses | 5.56* | 29.63* | 51.86* | 12.96* |
| Physicians | 16.44 | 56.85 | 24.65 | 2.05 |
| 9. Providing the patient with informative/training material on the disease/drug/medical device specifically designed according to their HL level | | | | |
| Nurses | 24.07* | 27.78* | 29.62* | 18.52* |
| Physicians | 36.99 | 45.21 | 13.7 | 4.11 |
| 10. Describing disease/treatment by showing or drawing pictures/models | | | | |
| Nurses | 20.37 | 33.33* | 37.04 | 9.26* |
| Physicians | 12.33 | 54.8 | 31.5 | 1.37 |
| 11. Limiting the amount of knowledge by providing 2 or 3 concepts at a time | | | | |
| Nurses | 7.41 | 48.15 | 35.18 | 9.26* |
| Physicians | 8.9 | 59.59 | 31.51 | 0 |
| 12. Asking the patient whether the information provided is understood or whether he or she has any questions | | | | |
| Nurses | 1.85 | 12.96 | 83.33 | 1.85 |
| Physicians | 1.37 | 23.28 | 75.34 | 0 |
| 13. Asking the patient to recall and describe the information he or she received | | | | |
| Nurses | 9.26 | 31.49* | 51.86* | 7.41* |
| Physicians | 11.64 | 58.91 | 29.45 | 0 |
| 14. Telling the patient/caregiver that he or she can call if any further information is needed or if any questions need to be clarified and providing him or her a contact number on which HCP to be reached | | | | |
| Nurses | 12.96 | 22.22* | 62.97* | 1.85 |
| Physicians | 10.96 | 38.35 | 49.32 | 1.37 |
| 15. Calling the patient and checking his or her compliance with and understanding of the treatment plan | | | | |
| Nurses | 33.33 | 29.63 | 27.77* | 9.26 |
| Physicians | 43.15 | 41.1 | 10.95 | 4.79 |
| 16. Evaluating the patient's compliance with the treatment plan during follow-up visits | | | | |
| Nurses | 9.26 | 16.67 | 66.66 | 7.41 |
| Physicians | 4.11 | 15.75 | 76.71 | 3.42 |

(continued)

Table 2. (continued)

| Method | Never, % | Rarely/occasionally, % | Frequently/always, % | Health system does not allow, % |
|---|----------|------------------------|----------------------|---------------------------------|
| 17. Requesting a supportive HCP to repeat the information given to the patient | | | | |
| Nurses | 46.3 | 22.22* | 25.92* | 5.56 |
| Physicians | 34.93 | 49.32 | 10.96 | 4.79 |
| 18. Transferring the patient to a professional/service that could provide information more easily | | | | |
| Nurses | 31.48* | 48.14 | 18.52* | 1.85 |
| Physicians | 45.89 | 43.83 | 4.79 | 5.48 |
| 19. Encouraging the patient to bring someone along who can understand/describe the information better | | | | |
| Nurses | 12.96 | 51.85 | 35.18* | 0 |
| Physicians | 16.44 | 63.7 | 16.44 | 3.42 |
| 20. Providing the patient an individualized, condensed health education session | | | | |
| Nurses | 38.89* | 29.63 | 22.22* | 9.26 |
| Physicians | 56.85 | 26.71 | 4.79 | 11.64 |
| 21. Transferring a patient with determined difficulty in reading/understanding/language problems to an education center or social care center | | | | |
| Nurses | 29.63* | 31.48 | 24.07* | 14.81 |
| Physicians | 58.22 | 28.08 | 4.79 | 8.9 |

Note. HL = health literacy; HCP = health care professional.

* $P < .05$ when nurses were compared with physicians.

“transferring a patient with determined difficulty in reading/understanding/language problems to an education center or social care center” (11.0%), which is consistent with the current structure of the system. Although more nurses than physicians stated that the health system does not allow the use of several of these methods (method number 1, 8, 9, 10, 11, and 13 Table 2), nurses tended to frequently/always use some of the communication methods more than physicians (method number 2, 6, 7, 8, 9, 13, 14, 15, 17, 18, 19, 20, and 21 Table 2). Providing a shame-free, comfortable environment for patients was the only method that was frequently/always used by more physicians (86.3%) than nurses (72.2%).

Although it is taught in medical school as a part of taking the medical history of patients, 32.2% of physicians never enquired about the last school from which the patient graduated (Table 2).

Some of the essential methods that ease communication with patients were used by more than 75% of the members of both professions frequently/always, such as “using everyday language, free of medical terminology,” “describing/demonstrating how to use medication, the amount of medication to be taken at a time, and the frequency of taking the medication,” “speaking slowly and clearly,” and “asking the patient whether the information provided is understood or whether he or she has any questions” (Table 2).

As effective communication is essential to the effectiveness of health systems, HCPs’ views on the factors obstructing effective communication with patients were also assessed. According to the HCPs, the most common factor was lack of time of HCPs (79.0%), followed by the sociocultural status of the patients (75.1%), and insufficient cognitive skills of patients/caregivers (70.3%). Other factors evaluated were complexity (48.0%) and the amount of medical

information (31.0%), language differences (43.2%), and lack of supporting educational material in patients’ language and at a level that patients can understand (43.2%). Significantly more nurses than physicians thought that language differences (61.0% vs 34.4%; $P = .0001$; 95% CI = 13.46-38.61), lack of supporting educational material in patients’ language and at a level patients can understand (57.6% vs 38.1%; $P = .0037$; 95% CI = 6.30-31.84), and the amount of medical information (42.4% vs 25.6%; $P = .0073$; 95% CI = 4.38-29.23) were among the factors obstructing effective communication with patients.

When HCPs were asked whether they experienced any consequences regarding the failure of their patients to understand the medical information provided, incompliance to medication (88.2%), treatment failure (81.7%), admission to another HCP/institution (79.9%), adverse reaction (71.2%), misdiagnosis (51.1%), and mistreatment (45.0%) were among the consequences experienced.

Four out of 5 HCPs (79.8%) stated that their willingness to evaluate the HL level of their patients would increase if a simple HL test was made available, and most of them (75.9%) believed that such a test should take no more than 5 minutes. Significantly more nurses (94.3%) than physicians (72.9%) stated their willingness to evaluate the HL of their patients with a simple test ($P = .0001$, 95% CI = 11.93-29.10). Furthermore, physicians (64.6%) were more likely than nurses (43.8%) to believe that their professional experience enabled HCPs to understand the HL level of a patient and that they would not need a test to measure HL level ($P = .0018$, 95% CI = 7.72-33.21).

The obstacles limiting the evaluation of HL according to HCPs were HCPs’ lack of knowledge of HL (79.0%); ignorance about how to evaluate HL (75.5%); lack of time

(70.5%); neglect of HL (53.5%); not considering HL a priority (46.5%); feeling uncomfortable about telling/explaining to a patient/caregiver that the patient's HL level will be evaluated (25.5%); lack of personnel with the knowledge, ability, and experience of evaluating HL (67.5%); lack of personnel or methods to provide appropriate services according to the needs of patients with low HL (39.0%); lack of administrative support (33.0%); lack of funding (22.5%); and not believing that the programs developed for patients with low HL will be effective (17.0%). Although most of the limiting factors did not differ between the 2 professions, more nurses than physicians consider HCPs' lack of knowledge of HL (88.5% vs 74.6%; $P = .0126$; 95% CI = 3.18-22.43) and their neglect of HL (69.2% vs 46.4%; $P = .0007$; 95% CI = 9.75-34.40) as obstacles to its evaluation.

HCPs' views on factors affecting the HL level of individuals were also assessed; among the factors, level of education was selected by 90.6% of the HCPs, followed by literacy (68.4%), area of residency (65.6%), income (59.8%), occupation (50.4%), age (41.8%), and sex (32.8%). More nurses than physicians thought that literacy (80.6% vs 63.9%; $P = .0076$, 95% CI = 4.66-26.93) and level of income (71.6% vs 54.2%; $P = .0088$; 95% CI = 4.50-28.80) were factors affecting HL of people.

Discussion

Based on our research, HCPs have limited awareness and knowledge of HL and its impact on the well-being of their patients and emphasize the urgent need for measures that increase the awareness of HCPs of HL and the subsequent incorporation of these measures into daily health care services. The willingness of the HCPs to receive training on the subject and their awareness of the probable detrimental effects of low HL on their practice indicate that HCPs understand the importance of HL and its role on the services they provide.

There were significant differences between nurses and physicians. Awareness was higher among nurses, compared with physicians, and nurses were already better at incorporating HL-sensitive items into their practices. The communication methods employed to improve relationships with patients differed between the 2 professions, and nurses tended to use these methods more compared with physicians.

According to studies measuring the effect of HL training on HCPs' self-perceived knowledge, skills, and intended behaviors, all HCPs benefit from training programs; however, physicians are less likely than their non-physician colleagues to make behavioral changes, despite the 2 groups' reporting similar baseline rates for these behaviors.^{26,27} In accordance with our findings, these results also support the idea that providing HL training to other HCPs besides physicians would provide more results.

Our findings are in accordance with those of other studies. According to a study by Rajah et al, one-third of all HCPs have poor HL knowledge, and more than half have negative attitudes toward HL, with no significant differences among the various subgroups of HCPs.²³ Limited time and lack of human resources are the major barriers to measuring HL.²³ Another study showed that nurses' knowledge of HL and their understanding of its role in patient outcomes are limited.²² Moreover, most of them have not received formal education on the subject or are unaware of the HL program of their health organization, and HL has a low priority compared with other problems.^{22,28} In line with these findings, nursing or medical schools are not providing sufficient information about HL or adequately addressing its impact on health outcomes.²⁹⁻³¹

Key HL educational competencies and practical approaches have been previously defined.^{32,33} Adopting and incorporating these educational competencies both to graduate and continuing education programs is a necessary step that needs to be taken to observe the positive effects of improved HL knowledge of HCPs on health care. Health literacy has proven to be an important component of personalized health care as it can facilitate providing each individual culturally and linguistically appropriate services. It is a determinant skill for the patient to make appropriate health decisions, but it is not the responsibility of the patient's only but is to be shared with HCPs. The complexity of the health care system and the continuous growth in the amount of medical information increases the roles and responsibilities of HCPs and regulatory authorities in achieving the goal of a health-literate population.

Although "approaches to improve the HL of individuals" may be needed in certain settings, the current global trend is "to improve the HL of organizations." It is well documented that individuals with limited HL benefit less from what health care systems have to offer compared with individuals with proficient HL; however, the content and delivery method for health information generally does not change in relation to the HL level of individuals.⁸

The tools that screen for limited HL are primarily used for research. Routinely screening patients for HL has not been shown to improve outcomes and is not recommended mainly due to ethical reasons. Instead, using universal HL precautions to provide understandable and accessible information to all patients, regardless of their literacy or education levels is recommended.³⁴

Health communication is defined as interpersonal or mass communication activities that are directed toward improving the health status of individuals and populations and may involve the integration of mass and multimedia communication with more local and/or personal traditional forms of communication.¹ Improving communication quality in health care organizations and implementing universal HL precautions to provide understandable and accessible information to all users of the health care system, regardless of their HL levels, are better approaches.^{7,35-37}

Employing strategies to ensure patient understanding seems to be the essential step of the universal precautions approach for the following reasons: (1) adults with proficient HL are a global minority; (2) the understanding of even these patients can be compromised by stress, illness, and fear; and (3) HL can be situational and can vary with the complexity of the information and patient's experiences. This means treating all patients as if they are at risk of not understanding health information, as professionals cannot accurately identify who understands the information and who does not. According to the *Health Literacy Universal Precautions Toolkit*, clear and actionable communication starts with greeting patients warmly; making eye contact; listening carefully; using plain, nonmedical language and using the patient's words throughout the conversation; limiting information to 3 to 5 key points and repeating them; showing graphics; demonstrating how it is done; encouraging patients to participate and ask questions; and confirming what patients received by applying the teach-back method.³⁸

However, the HCP's role in the system does not end with improving his or her communication skills. In accordance with the framework of the World Health Organization³⁹ on integrated people-centered health services, the ideas presented by Kristine Sørensen to the Department of Health and Human Services Health Literacy Workgroup on Tuesday, April 24, 2018,⁴⁰ summarizes the need for change to achieve people-centered health services and how "health professionals need to change their HL mind-set from focusing on people's skills to meet the complex demands of systems to focusing on the system's skills to meet the complex demands of people." According to Sørensen, "health professionals can be held more accountable for implementing the values of putting people and communities at the core of their professional mission by applying the HL definition to guide their work in practice."⁴⁰ The essential role of HCPs begins with assessing people's needs, fully understanding their problems, helping enable them to appraise what they want, and supporting them in the application of solutions according to their abilities, complexities, and prospects and provide tailor-made, personalized solutions that match each individual's demands and needs.

In conclusion, the findings of our study indicate that HCPs' education, skills, and current workload, and the methods with which they provide their services may not be in accordance with these suggestions. Changes are needed in the mind-set of the decision-makers and educators, job profiles of these professionals, and the work environment. Concomitantly, the professionals' knowledge, attitudes, and practices should be targeted by providing them with education and training on HL and individualizing their services in accordance with their patients' needs. A global, multidimensional approach would achieve results and reduce the problems caused by low HL.

Limitations

This study had several limitations. First, because this was an online survey, we do not know the number of HCPs the survey link reached. Second, the study population may not be representative of all HCPs in the country because most of the participants were from 1 city. Third, focus group interviews would have added more value to our findings by providing a better understanding of the rationale behind some of the answers of the participants.

Authors' Note

The authors confirm that the publication has been approved by all co-authors and the manuscript has not been and will not be considered for publication elsewhere.

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Ethical Approval

The study protocol and survey questions were approved by the Institutional Review Board of Humanitarian Research, The Union of Chambers and Commodity Exchanges of Turkey (TOBB) Economics and Technology University (IRB Approval Number 2016-Ekim/01-3).

Informed Consent

Written consent was obtained from all the participants prior to all study-related procedures.

Declaration of Conflicting Interests

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References

1. Nutbeam D; on behalf of World Health Organization. *Health Promotion Glossary*; 1998. <http://www.who.int/healthpromotion/about/HPR%20Glossary%201998.pdf>. Accessed April 15, 2019.
2. Kickbusch IS. Health literacy: addressing the health and education divide. *Health Promot Int*. 2001;16(3):289-297.
3. McCarthy DM, Waite KR, Curtis LM, Engel KG, Baker DW, Wolf MS. What did the doctor say? health literacy and recall of medical instructions. *Med Care*. 2012;50(4):277-282.
4. Karl JI, McDaniel JC. Health literacy deficits found among educated, insured university employees. *Workplace Health Saf*. 2018;66(9):419-427.

5. Ratzan SC, Parker RM. Introduction. In: Selden CR, Zorn M, Ratzan SC, Parker RM, eds. *National Library of Medicine Current Bibliographies in Medicine: Health Literacy* (NLM Pub. No. CBM 2000-1). Bethesda, MD: National Institutes of Health, US Department of Health and Human Services, 19-30; 2000.
6. Rudd RE. Health literacy skills of U.S. adults. *Am J Health Behav.* 2007;31(suppl 1):S8-S18.
7. Weiss BD. *Health Literacy and Patient Safety: Help Patients Understand. A Manual for Clinicians.* 2nd ed. Chicago, IL: American Medical Association; 2007.
8. Berkman ND, Sheridan SL, Donahue KE, et al. Health literacy interventions and outcomes: an updated systematic review. *Evid Rep Technol Assess (Full Rep).* 2011;199:1-941.
9. Ozdemir H, Alper Z, Uncu Y, Bilgel N. Health literacy among adults: a study from Turkey. *Health Educ Res.* 2010;25(3):464-477.
10. Durusu Tanrıöver M, Yıldırım HH, Demiray Ready FN, Cakir B, Akalin HE. *Türkiye sağlık okuryazarlığı araştırması* [Health Literacy Survey, Turkey] 1st ed. Ankara, Turkish: Sağlık-Sen Yayınları; 2014.
11. Sorensen K, Pelikan JM, Rothlin F, et al. Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). *Eur J Public Health.* 2015;25(6):1053-1058.
12. *Low Health Literacy Skills Increase Annual Health Care Expenditures by \$73 Billion.* Center on an Aging Society at Georgetown University. <http://ihcrp.georgetown.edu/aging-society/pubhtml/healthlit.html>. Published 1999. Accessed April 15, 2019.
13. Haun JN, Patel NR, French DD, Campbell RR, Bradham DD, Lapcevic WA. Association between health literacy and medical care costs in an integrated healthcare system: a regional population based study. *BMC Health Serv Res.* 2015;15:249.
14. Vernon JA, Trujillo A, Rosenbaum SJ, DeBuono B. *Low Health Literacy: Implications for National Health Policy.* Washington, DC: Department of Health Policy, School of Public Health and Health Services, The George Washington University; 2007. http://hsrc.himmelfarb.gwu.edu/sphhs_policy_facpubs/172/. Accessed April 15, 2019.
15. Estimates of Diabetes and Its Burden in the United States. National Diabetes Statistics Report, 2017. <http://www.diabetes.org/assets/pdfs/basics/cdc-statistics-report-2017.pdf>. Date unknown. Accessed April 15, 2019.
16. Kutner M, Greenberg E, Jin Y, Paulsen C. The health literacy of America's adults: results from the 2003 National Assessment of Adult Literacy. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006483>. Published in 2006. Accessed April 15, 2019.
17. Rasu RS, Bawa WA, Suminski R, Snella K, Warady B. Health literacy impact on national healthcare utilization and expenditure. *Int J Health Policy Manag.* 2015;4(11):747-755.
18. *Skills Matter: Further Results from the Survey of Adult Skills.* OECD; 2016 <https://www.oecd.org/turkey/Skills-Matter-Turkey.pdf>. Accessed April 15, 2019.
19. Sorensen K, VandenBroucke S, Fullam J, Doyle G, Pelikan J, Slonska Z, Brand H. Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health.* 2012;12:80.
20. Institute of Medicine (US) Committee on Health Literacy; Nielsen-Bohlman L, Panzer AM, Kindig DA. *Health Literacy: A Prescription to End Confusion.* Washington, DC: National Academies Press (US); 2004.
21. Castro CM, Wilson C, Wang F, Schillinger D. Babel babble: physicians' use of unclarified medical jargon with patients. *Am J Health Behav.* 2007;31(suppl 1):S85-S95.
22. Macabasco-O'Connell A, Fry-Bowers EK. Knowledge and perceptions of health literacy among nursing professionals. *J Health Commun.* 2011;16(suppl 3):295-307.
23. Rajah R, Hassali MA, Lim CJ. Health literacy-related knowledge, attitude, and perceived barriers: a cross-sectional study among physicians, pharmacists, and nurses in public hospitals of penang, Malaysia. *Front Public Health.* 2017;5:281.
24. Schwartzberg JG, Cowett A, VanGeest J, Wolf MS. Communication techniques for patients with low health literacy: a survey of physicians, nurses, and pharmacists. *Am J Health Behav.* 2007;31(suppl 1):S96-S104.
25. Turner T, Cull WL, Bayldon B, et al. Pediatricians and health literacy: descriptive results from a national survey. *Pediatrics.* 2009;124(suppl 3):S299-S305.
26. Schlichting JA, Quinn MT, Heuer LJ, Schaefer CT, Drum ML, Chin MH. Provider perceptions of limited health literacy in community health centers. *Patient Educ Couns.* 2007;69(1-3):114-120.
27. Coleman CA, Fromer A. A health literacy training intervention for physicians and other health professionals. *Fam Med.* 2015;47(5):388-392.
28. Cafiero M. Nurse practitioners' knowledge, experience, and intention to use health literacy strategies in clinical practice. *J Health Commun.* 2013;18(suppl 1):70-81.
29. Ali NK. Are we training residents to communicate with low health literacy patients? *J Community Hosp Intern Med Perspect.* 2013;2(4). doi:10.3402/jchimp.v2i4.19238.
30. Coleman CA, Appy S. Health literacy teaching in US medical schools, 2010. *Fam Med.* 2012;44(7):504-507.
31. DeBello M. A review of nursing textbooks and nursing journals on health literacy strategies. Are nursing students getting the needed information on health literacy? Paper presented at Health Literacy Annual Researchers Conference, Bethesda; October 22-23, 2012; Washington, DC.
32. Barrett SE, Puryear JS, Westpheling K. Health literacy practices in primary care settings: examples from the field. The Commonwealth Fund. <https://www.commonwealthfund.org/publications/fund-reports/2008/jan/health-literacy-practices-primary-care-settings-examples-field>. Published in 2008. Accessed April 15, 2019.
33. Coleman CA, Hudson S, Maine LL. Health literacy practices and educational competencies for health professionals: a consensus study. *J Health Commun.* 2013;18(suppl 1):82-102.
34. Hersh L, Salzman B, Snyderman D. Health literacy in primary care practice. *Am Fam Physician.* 2015;92(2):118-124.
35. Wynia MK, Osborn CY. Health literacy and communication quality in health care organizations. *J Health Commun.* 2010;15(suppl 2):102-115.
36. World Health Organization. Health literacy and health behaviour. Presented at the 7th Global Conference on Health Promotion, Beijing, China; October 26-30, 2009. www.who.int/healthpromotion/conferences/7gchp/track2/en. Accessed April 15, 2019.
37. *National Action Plan to Improve Health Literacy.* Washington, DC: US Department of Health and Human Services, Office

- of Disease Prevention and Health Promotion; 2010. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf. Accessed April 15, 2019.
38. *Health Literacy Universal Precautions Toolkit, 2nd Edition*. Rockville, MD: Agency for Healthcare Research and Quality; 2015. <http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2.html>. Accessed April 15, 2019.
39. Strengthening people-centred health systems in the WHO European Region A Framework for Action towards Coordinated/Integrated Health Services Delivery. World Health Organization Health Services Delivery Programme, Division of Health Systems and Public Health. http://www.euro.who.int/__data/assets/pdf_file/0005/231692/e96929-replacement-CIHSD-Roadmap-171014b.pdf. Published 2013. Accessed April 15, 2019.
40. Sørensen K. *Shifting the Health Literacy Mindset to Enhance People-Centred Health Services*. ODPHP. <https://health.gov/news/blog/2018/07/shifting-the-health-literacy-mindset-to-enhance-people-centred-health-services/>. Published 2018. Accessed April 15, 2019.