# Evaluation of Health Literacy in Academics at a University of Turkey

## ABSTRACT

**Background and Objective:** The level of health literacy of individuals contributes to their ability to protect and improve health and to exhibit positive health behaviours. The concept of health literacy entails that individual should have basic health knowledge. The study was conducted to determine the level of health literacy in academics at Harran University.

**Materials and Methods:** The participants of this descriptive study were 115 academics. The Turkish Health Literacy Survey Questionnaire-32 and the introductory information form were used to collect data.

**Results:** Of the participants, 67.0% were male, 75.7% were married, and 73.0% were in the faculty. The mean health literacy score of the participants is 34.51. There was no statistically significant difference between the participants' gender, marital status, title, workplace, working time and the mean total index score ($p>0.05$). The lowest mean scores in the health care sub-dimension were related to the process of appraising information (mean: 30.08), whereas the lowest scores in the disease prevention and health promotion sub-dimension were related to the process of applying information (mean: 30.08).

**Conclusion:** It was found that the health literacy of the participants was not at the desired level. In order to increase the health literacy levels of the academics, who are seen as role models in society, it can be recommended to conduct interventional efforts with broader samples.

**Paper Type:** Research Article

**Keywords:** Health literacy, Academic, University

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## Introduction

The concept of health literacy (HL) is very important in public health research and health care reform processes. It is regarded as one of the main factors and determinants of individual health and health care(1). HL is a developing concept requiring a comprehensive understanding of health in order to strengthen individuals with a simple understanding of health information for healthy life(2). After a systematic literature review of actual HL definitions and models, the Consortium a Health Literacy Project European (HLS-EU) defined HL as knowledge, motivation and proficiency to attainment, understand, evaluate and implement information about health. To maintain or improve the quality of life throughout life, health care, disease prevention and health promotion are required (3). One of the priorities of the World Health Organization (WHO) is to develop combined and human-centred health care services that allow reduction of health payment and improvement of quality of life. This requires the growth of strategies to strengthen patients and enhance their accession to healthy decision-making processes. Now then, it is attainment for patients to access and understand health instruction (4,5). At this stage, health literacy becomes important. Essentially, health literacy covers the ability to deal with appointment cards, doctors' descriptions, prescription instructions, and medical training brochures as well as health systems that are difficult to understand. The poor health literacy increases the error rate in one's choices, leads to risky behaviours, undermines one's ability to manage own health and causes longer hospital treatment (6). It also increases the risk of chronic diseases (7). In this respect, insufficient health literacy leads to considerable consumption of human and financial resources in the health system (8). Individuals with inadequate health literacy are considered to be more prone to negative health behaviours. It is important to increase health literacy in order to change behavioural risk factors such as smoking, malnutrition, alcohol, physical inactivity, and overweight (9). A study found that the general health literacy indices of participants are inadequate and problematic (10). Another demonstrated that gender, educational status, marital status, and income status of individuals do not affect the health literacy index (11). However, Janicke et al.,(12) reported that gender affects health literacy. The health literacy of individuals is effective both in protecting their own health and the health of other people around them. In a systematic review examining the health literacy status of children aged 6-18, parents' education level contributes positively to the health literacy status of children (13).

Considering the benefits of increasing the level of health literacy, it is very important that academics as role models in society have adequate health literacy. However, there is no studies that show the status of health literacy among academics in Turkey.

## Materials and Method

### Study Design

This study aims to determine the level of health literacy of academics working at Harran University. This is a descriptive study and it was conducted between 1 May 2019 and 1 November 2019.

### Study Sample

All academics who were working at Harran University and who agreed to participate in the study constituted the sample of the study (115 academics). The academics that were working in health-related faculties and vocational schools were not included in the study. The data collection form was sent to all academics via e-mail.

## Data Collection Tools

The Introductory information form and the Turkish Health Literacy Survey Questionnaire-32 were used in the collection of data.

Introductory information form: It consists of five questions concerning the introductory characteristics of the participants such as gender, marital status, title, place of work, and working time.

Turkish Health Literacy Survey Questionnaire-32 (TLS-TR-32): The scale is based on the conceptual framework developed by the Consortium Health Literacy Project European (HLS-EU CONSORTIUM, 2012). Okyay and Abacıgil in 2016 examined the validity and reliability of this scale in 2016(14). TLS-TR-32 is a self-report scale developed to assess the health literacy of literate people over 15 years old. However, TLS-TR-32 is structured on the basis of a 2x4 matrix, taking only two basic dimensions (unlike the tree in the original scale). Accordingly, the matrix consists of two dimensions (health care and disease prevention or health promotion) and four processes (accessing health information, understanding health information, appraising health information, and assessing health information), making up eight components. The conceptual framework contains two dimensions related to health (health care, disease prevention, and health promotion) and four process of obtaining information (accessing, understanding, assessing, and applying). Each item was ranked based on 4-point scales (1 = Very easy, 2 = Easy, 3 = Difficult, and 4 = Very difficult). Before proceeding with the scoring, the codes must be re-encoded to 1-4 to 4-1. For convenience in the calculation, the total score was standardized with the following formula; so that it is ranged from 0 to 50. The level of health literacy was assessed in four categories based on the following criteria: inadequate health literacy (0-25), problematic or limited health literacy (>25-33), adequate health literacy (>33-42), and excellent health literacy (>42-50).

## Variables of Study

The independent values of the study were age, gender, marital status, academic title, place of work, and working time. The dependent variable was the mean score from the Turkish Health Literacy Survey Questionnaire-32 (15).

## Statistical Analyses

The data were analysed using the SPSS Statistics package program. Descriptive characteristics were evaluated using number, percentage, and mean. The Kruskal-Wallis test, t-test for independent groups, and the Mann-Whitney U test were used to determine the relationship between the introductory characteristics and the TLS-TR-32 mean score.

## Ethical Approval for the Study

In order to carry out the study, permission was obtained from the Ethics Board of the Faculty of Medicine at Harran University (Resolution dated 16 May 2019 and numbered 21228), as well as from the institution and the participants.

# Results

The mean age of the participants was 39.96±9.50, 67% of the participants were male and, 75.7% were married. Of the participants, 37.8% were faculty members and 73% were other faculty staff. In addition, 37.4% of the participants stated that they are working as teaching staff for 16 years and above (Table 1).

Based on the TLS-TR-32 evaluation results, it was found that the overall level of health literacy score of the participants was 34.51 (95% confidence interval: 32.95-36.17). The mean score of health care sub-dimension was 35.24 (95% confidence interval: 33.60-36.97), and the mean score of disease prevention and health promotion sub-dimension was 33.30 (95% confidence interval: 31.56-35.01). The lowest mean score in the

health care sub-dimension was in the process of appraising information (mean: 30.08, 95% confidence interval: 27.94-32.14), whereas the lowest mean score in the disease prevention and health promotion was in the process of applying the information (mean: 28.36, 95% confidence interval: 26.38-30.27) (Table 2).

**Table 1. Distribution of Introductory Characteristics of Participants**

| Variables | Number | % | Variables | Number | % |
|---|---|---|---|---|---|
| Gender | | | Marital Status | | |
| Female | 38 | 33.0 | Married | 87 | 75.7 |
| Male | 77 | 67.0 | Single | 28 | 24.3 |
| Title | | | Working Time | | |
| Professor | 12 | 10.4 | 1-5 years | 37 | 32.2 |
| Associate Professor | 12 | 10.4 | 6-10 years | 25 | 21.7 |
| Assistant Professor | 31 | 27.0 | 11-15 years | 10 | 8.7 |
| Lecturer | 37 | 32.2 | 16 years and over | 43 | 37.4 |
| Resarch Assistant | 23 | 20.0 | Total | 115 | 100.0 |
| Department | | | | | |
| Faculty | 84 | 73.0 | | | |
| High School | 8 | 7.0 | | | |
| Vocational High School | 23 | 20.0 | | | |

In general, 31.3% of participants had an "adequate and excellent" health literacy level and the ratio of the participant having "adequate and excellent" health literacy level in the health care sub-dimension was 41.7%. The ratio of the participants having "adequate and excellent" health literacy level in the disease prevention and health promotion was 30.4% (Table 3).

There was no statistically significant difference between gender, marital status, title, place of work, working time, and overall index score ($p > 0.05$) (Table 4).

**Table 2. Turkish Health Literacy Survey Questionnaire Mean Scores of Participants and 95% Confidence Interval Values**

| Sub-dimensions | Process | Mean Score | %95 Cconfidence İnterval | |
|---|---|---|---|---|
| General | | 34.51 | 32.95 | 36.17 |
| Health Care | | 35.24 | 33.60 | 36.97 |
| | Access İnformation | 36.94 | 35.31 | 38.76 |
| | Understanding İnformation | 35.67 | 33.85 | 37.43 |
| | Appraising İnformation | 30.08 | 27.94 | 32.14 |
| | Use/ Application İnformation | 36.79 | 35.08 | 38.58 |
| Disease Prevention and Health Promotion | | 33.30 | 31.56 | 35.01 |
| | Access İnformation | 35.59 | 33.68 | 37.50 |
| | Understanding İnformation | 35.61 | 33.90 | 37.27 |
| | Appraising İnformation | 32.77 | 30.85 | 34.74 |
| | Use/ Application İnformation | 28.36 | 26.38 | 30.27 |

## Discussion

Health literacy is defined as a "combination of personal competencies and situational resources needed for people to access, understand, appraise and apply information and services in making health-related decisions." These decisions include the capacity to communicate, claim, and act accordingly (14). Academics are professionals with a high level of education to conduct research and teaching. This study was conducted to determine the health literacy levels of academics using a scale specific for Turkish society.

In the present study, the arithmetic means score of health literacy on TLS-TR-32 scale was

**Table 3. Frequency Distribution of Health Literacy Categories of Participants**

| Sub-dimensions | Process | Frequency of Health Literacy | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Inadequate | | Problematic | | Adequate | | Excellent | |
| | | n | % | n | % | n | % | n | % |
| General | | 33 | 28.7 | 46 | 40.0 | 10 | 8.7 | 26 | 22.6 |
| Health Care | | 26 | 22.6 | 41 | 35.7 | 26 | 22.6 | 22 | 19.1 |
| | Access İnformation | 18 | 15.7 | 38 | 33.0 | 26 | 22.6 | 33 | 28.7 |
| | Understanding İnformation | 14 | 12.2 | 54 | 47.0 | 20 | 17.4 | 27 | 23.5 |
| | Appraising İnformation | 52 | 45.2 | 36 | 31.3 | 11 | 9.6 | 16 | 13.9 |
| | Use/Application İnformation | 18 | 15.7 | 43 | 37.4 | 23 | 20.0 | 31 | 27.0 |
| Disease Prevention and Health Promotion | | 28 | 24.3 | 52 | 45.2 | 16 | 13.9 | 19 | 16.5 |
| | Access İnformation | 22 | 19.1 | 48 | 41.7 | 20 | 17.4 | 25 | 21.7 |
| | Understanding İnformation | 15 | 13.0 | 58 | 50.4 | 17 | 14.8 | 25 | 21.7 |
| | Appraising İnformation | 39 | 33.9 | 37 | 32.2 | 22 | 19.1 | 17 | 14.8 |
| | Use/Application İnformation | 59 | 51.3 | 36 | 31.3 | 8 | 7.0 | 12 | 10.4 |

**Table 4. Comparison of General Index Mean Scores based on Demographic Characteristics of Participants**

| Characteristics | General Index Mean Scores $\bar{X}$ ± SS | Statistical Value | |
|---|---|---|---|
| Gender | | t = -1.832 | p = 0.073 |
| Female | 36.78±9.50 | | |
| Male | 33.29±6.90 | | |
| Marital Status | | U = 721.500 | p = 0.329 |
| Married | 34.02±7.38 | | |
| Single | 36.16±9.96 | | |
| Title | | K-W-X2 = . 334 | p = 0.988 |
| Professor | 35.98±8.59 | | |
| Associate Professor | 34.09±6.71 | | |
| Assistant Professor | 33.58±7.99 | | |
| Lecturer | 34.76±7.20 | | |
| Resarch Assistant | 34.93±10.37 | | |
| Department | | K-W-X2 = . 962 | p = 0.618 |
| Faculty | 34.94±8.44 | | |
| High School | 32.73±6.69 | | |
| Vocational High School | 33.65±7.16 | | |
| Working Time | | K-W-X2 = . 747 | p = 0.618 |
| 1-5 years | 35.35±9.33 | | |
| 6-10 years | 34.38±6.36 | | |
| 11-15 years | 35.64±8.16 | | |
| 16 years and over | 33.67±7.86 | | |

34.51. It was found that less than half of the academics who participated in this study had an "adequate or excellent level of health literacy." Less than half of the academicians have sufficient or excellent health literacy in the health, disease prevention, and health promotion sub-dimensions of the scale. The ratios for accessing information in both sub-dimensions were high. The overall score of health literacy based TLS-TR-32 Scale was 29.5 in Turkey". In this study, the general level of health literacy in quarter of participants was "an adequate or excellent". Similar results were found in health services, disease prevention, and health promotion sub-dimensions. In the present study, the highest ratio was related to access health information, and the appraising health information showed the lowest ratio(15). In another study conducted in Turkey, the health literacy ratio of academics was found as 28.8%(16). Unlike the present study, in another study conducted on individuals aged 24-61, the average health literacy score was calculated to be 24.59, health care sub-dimension mean score 25.68, and the disease prevention and health promotion sub-dimension mean score 23.50(11). In the present study, the mean score of health care and disease prevention and health promotion skills in the academics were below the desired level.

As part of their duties, academics conduct scientific research and need knowledge in the process. To access information, there are many resources, especially electronic media. Academics are expected to be competent in accessing and analyzing information (17). Academics with their specialization in health sciences were not included in this study. However, in general, all academics are expected to have a high level of competence in accessing and understanding information about health issues. On the other hand, the existence of excessive and diverse information in electronic sources may undermine the ability of academics to appraise and apply the correct information.

Health literacy contributes to the prolongation of life expectancy of individuals, improves the quality of life, enhances communication skills with health personnel and ensures effective utilization of health service provides. Within the scope of these components, the role of health education and communication in the development of personal, social, and environmental health components is determined (18). High level of health literacy is an important factor that plays a role in health promotion and disease prevention. In the present study, there was no statistical difference in terms of gender, although the mean score of the female academics on the total scale was higher than that of men. In a study conducted with 200 academics at a state university in Turkey, the female academics who were in PhD period and patient with chronic diseases were found to have a high level of health literacy (19). In a study conducted with 350 female academics, the score of the health promotion lifestyle among people underwent cancer screening (breast self-examination, mammography, pap smear) were found to be statistically high (20). They believed that women tend to have higher mean scores because they are more interested to conduct cosmetics-related health research.

In the present study, the mean scores of the professor faculty members and the lecturers with a working experience of 11-15 years were higher compared to other criteria. The factors affecting the physical activity of academics include age, academic title and working time. Women also showed a higher level of physical activity (21). Result from study that was conducted on patients with type 2 diabetes who worked in the universities in the South-eastern Anatolia Region showed that the age of the academics was inversely proportional to their level of activity,

and risk scores of diabetes were high in this population, as well as significant relationship was observed between the activity level and the diabetes risk (22). It takes many years of academic work to achieve the title of professor and this period coincides with the advanced age. However, in order to have an academic title, it is necessary to undergo certain educational processes, and the stress experienced during this period and the advance age were associated with higher health literacy mean scores.

Limitations: Our study has some limitations: Not all academic staff could be reached. The number of studies on academics in the literature is quite limited. Data were obtained with an online form.

Conclusion and Recommendations: In the study, it was found that the majority of the academics had "inadequate and problematic" literacy levels on the general index, health care sub-dimension, the disease prevention, and health promotion sub-dimension. The level of health literacy is very important in acquiring and maintaining positive health behaviours. It is suggested that interventional nursing efforts should be implemented with a broader sample to improve health literacy of academics as role models in society. Nurses should evaluate the health literacy level of patients in order to provide and maintain holistic care. For this, they should use effective communication methods to support individuals in terms of protecting and improving health.

**Conflict of Interest:** The authors declare no conflict of interest in the current study

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