

Evaluation of Health Literacy among Females in Outpatient Clinics

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Abstract

Background: The World Health Organization considered health literacy as one of the most important determinant factors to promote various aspects of public health. Low health literacy can contribute to increased rates of hospitalization, reduced rates of medication adherence, decreased capacity to manage chronic diseases and increased the rate of emergency department visit. **Objective:** To evaluate the degree of health literacy among the sample, and to examine the relation between age and education level of the participants and health literacy level. **Methods:** A descriptive cross-sectional study was conducted, by using an Arabic version of SAHL scale. Data were collected between November 2015 to December 2015 with 105 females in outpatient clinics. **Result:** The selected females in outpatient clinics have adequate health literacy levels, with a mean score (15.13±1.856). Moreover, there is no relation between the level of health literacy with age and education level of the participants. **Conclusion:** This study provides knowledge that can be applied to evolve schemes to encourage the health literacy level among females in Saudi Arabia.

Keywords: Literacy; Health Literacy; Outpatients; Females

Introduction

The term of “health literacy” was used in the peer-reviewed academic literature in 1974.^[1] The definition of Health Literacy is varied. Institute of Medicine, defined the health literacy as “the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions”.^[2] The latest definition of the health literacy is “The degree to which individuals and groups can obtain process, understand, evaluate, and act upon information needed to make public health decisions that benefit the community”.^[3] Moreover, The National Assessment of Adult Literacy (NAAL) defined it as the ability to use printed and written information associated with a broad range of health-related tasks to accomplish one’s goals at home, in the workplace, and in the community (including healthcare settings).^[4]

People normally face situations that affect critical decisions about their health. However, over half the world’s client population is unable to interpret basic healthcare information.^[5,6] Health literacy considers as a Priority in the delivery of healthcare.^[7] The World Health Organization (WHO) considered health literacy as one of the most important determinant factors to promote various aspects of public health. Low health literacy can lead to increased rates of hospitalization, reduced rates of medication adherence, decreased capacity to manage chronic diseases and increased the rate of emergency department visit.^[8]

Low health literacy places patients, health care professionals, and the health care system at risk for adverse events and poor patient outcomes related to limited patient interpreting of healthcare

information.^[9] Individuals with limited health literacy skills report feeling a sense of shame about their skill level.^[9] Joint Commission recommends seven strategies for improving health literacy: (a) recognized of patient behaviors with low health literacy skills, (b) employ universal precautions approach to all patients encounters by using clear communications and plain language, (c) employ multiple teaching methods to meet the needs of visual and auditory learners, (d) make the most of the written materials, (e) keep it short and use repetitive materials, (f) carefully assess what the patient has understood, and (g) take action with patients are chronically ill.^[10]

The data from health literacy screenings will help nurses individualize teaching strategies, and improve communication with patients.^[11,12] Most healthcare providers cannot recognize which of their patients are limited in health literacy and the result of that they fail to understand how to intervene with these types of patients.^[13] The woman faced difficulties to make informed decisions if they do not have enough understanding of the healthcare information and to make an informed decision results in desirable health consequences for her and her family.^[14] In the United States, health literacy is one of the 20 priority areas by the Institute of Medicine (IOM) in which quality improvement

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could have an impact on health care.^[2] Improved health literacy is necessary for people to increase control over their health and better management of disease and risk.^[15] The purpose of health literacy is helping people to make sound health-related decisions.^[16] Literature suggests that low health literacy levels are predictors of poor health outcomes, the healthcare costs of individuals with low literacy levels are approximately four times higher than those with higher literacy skills.^[17] Patients with limited health literacy are missing appointments because of a failure to understand or follow directions, failed to describe and list the purpose of the medication prescribed, unable to question healthcare providers.^[18] Individuals need access to unbiased and high-quality information to empower themselves and wider society in making informed decisions, and without information, clients have no real choices.^[19]

A health literacy model classified into the following three different forms: functional health literacy, critical health literacy, and interactive health literacy.^[20] Functional health literacy is based on traditional literacy skills, including reading, writing, and enhancement of an individual's knowledge by communication on health information. Interactive health literacy is the development of skills to act on knowledge independently and the personal capacity for development. Critical health literacy is described as the development of skills to support social, political, and individual action. The Canadian Education Research Information System identified six essential skills of literacy: quantitative literacy, scientific literacy, technological literacy, cultural literacy, media literacy, and computer literacy.^[21] Excellent communication skills and relationships between health care providers and patients are essential elements of the health literacy. The exchange of information is an important concept of communication and a key element of health literacy.^[22] Anyhow, communication is hindered when the staff has multiple countries of origin and is dealing with patients whose background is also divergent.^[23] The communication style of the healthcare provider can either support the exchange of information to enable empowerment or act as a barrier to information exchange, which can lead to the disempowerment of patients. Classes for the healthcare giver which discuss cultural traditions are mandatory to improve the communication. Enhancing health literacy could lead to self-management, resulting in better health outcomes, improve health decision-making, and increased the ability to manage one's health.^[23]

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute of Statistics (UIS), 16 percent of the world's adult population lack basic literacy skills. About two-thirds are women.^[24] Some countries within the Eastern Mediterranean Region (EMR) have high adult literacy rates; approximately half have rates below the global developing country average of 79 percent. The highest literacy rate was in Jordan, and the lowest was in Somalia.^[25]

Limited health literacy affects many individuals regardless of age, gender, race, educational level, and socioeconomic level; it is consistently associated with education, age, and ethnicity.

^[4] The elderly population has been found to have inadequate health literacy;^[26] the insufficient of health literacy among the aging result decreasing cognitive function and potential health impairments.^[27] Educational attainment and monthly income are significantly associated with the level of health literacy regardless of the age of study participants.^[28,29] The World Health Organization (WHO) reported that the literacy level among the men in the developed countries is higher than the women level, except in Qatar and United Arab Emirate.^[25] The study of gender differences in health among Korean adults claimed that Korean women have higher health literacy levels than Korean men.^[30] This study intended to determine the level of health literacy among the female outpatients in a university hospital, in Saudi Arabia, and explore the relationship between health literacy with selected demographic variables.

Materials and Methods

Cross-Sectional Survey research design was used in this study. The study was conducted in a university hospital in capital Riyadh in Saudi Arabia, in November 2015. A face-to-face interviews survey was conducted in this study. The target population for the current study is the female outpatients in a university hospital, in Riyadh capital city, in Saudi Arabia. The sample size was not determined by a power analysis. A purposive and convenient sampling strategy was selected. Participants were recruited as per their availability. The total of 105 women visited the outpatient clinic participated in this study. The eligible criteria's was women more than 15 years old, have follow-up appointments in the outpatient clinic, and willing to participate in this study. The exclusion criteria include the entire participant who does not meet the inclusion criteria. The questionnaire comprised of two parts: Selected characteristic of the participants includes demographic variables: age, and education level. The second part of the questionnaire is the Short Assessment of Health Literacy (SAHL), by using a validated Arabic (SAHL). The original Short Assessment of Health Literacy contains 18 test items. English and Spanish SAHL, originally designed to provide a comparable test of health literacy for Spanish-speaking and English-speaking population.^[31] For each term in SAHL, the participant has to choose only one word is related to the term. To use an example from the SAHL-E, the infection had to be associated with either plant or virus. To assure consistency among participants in understanding the tool, SAHL was forward translated and adapted from English to Arabic by the researchers, with permission of the United States Agency for Healthcare Research and Quality (AHRQ).^[32] The translation was revised by two bilingual academics, and translation professionals. A back translation was conducted by the researcher and revised by another bilingual translator to assure that the translated words retained the same meanings. Tool validity was assessed using content validity index (CVI). Item level CVIs (ICVIS) of .78 or higher for three or more experts could be considered evidence of good content validity.^[33] To establish content validity, SAHL was submitted to a jury composed of five experts in the field education and community, to prove the relevance of tool words to the study objectives. All the experts gave feedback. The item- level CVI (I-CVI) was applied to each content expert rates the item on its relevance.

Relevance is defined by its fit, understandability and overall clarity using a 4-point Likert scale.^[34] Lynn recommended that I-CVI no lower than .78, and CVI of .90 be considered to indicate good validity. The items the I-CVI was good, ranging between 0.83 and 1. The Content Validity Index (CVI) was 0.99. The second step will be directing a pilot examination of the study on a subset of the intended population, to assure the reliability. Twenty female outpatients in a university hospital participated as a pilot sample. The reliability of Arabic version was proven using Cronbach's alpha ($\alpha = 0.7$). Estimated time to complete the assessment ranged between 2 to 5 minutes. The data was collected between November 2015, to December 2015. During the interview, the interviewer was explained to the participants that I am going to show you cards with three words on them. First, I would like you to read the top word out loud. Next, I will read the two words underneath, and I would like you to tell me which of the two words is more similar to the top word. If you do not know, please say 'I do not know.' Each correct answer gets one point. A score between 0 and 14 suggests the examinee has low health literacy.

Informed consent was obtained from each participant, to reassure that their participation was entirely voluntary and that the participant could withdraw at any time. All participants were assured in terms of confidentiality and anonymity.

Analyses were carried out using the software package SPSS 22 International Business Machines Corporation, IBM, Al Monk, New York, the USA for Windows. Descriptive statistics were used to analyze the sociodemographic characteristics of participants and SAHL scores. Spearman's (ρ) correlations were used to analyze the relationship between each independent and dependent variable when appropriate. Multiple linear regression analysis was performed to examine the factors associated with SAHL. The statistical significance was set at $P < 0.01$.

Ethical considerations

The study proposal was submitted to the Institutional Review Board (IRB) and the Ethical Committee of the research center at the study setting, to assure the feasibility and suitability of the study and guarantee that it meets all ethical considerations. An information sheet explaining the Introduction, Purpose, process, risk, benefit, and assurance of anonymity and confidentiality of the study was provided to all the participants. They have signed a consent form attached to the questionnaire. The participants were informed that they had the right to withdraw from the study at any time and for any reason.

Results

The age of participants ranges between 16 to 46 years old from a total of 115 participants. The educational level was distributed from illiterate with total 2 (1.9%), intermediate school 2 (1.9%), 33 (31.4%) from the participants were studied until the secondary school. The majority were held a bachelor degree 62 (59%), only one lady was held a diploma degree, 5 (4.8%) had a master and doctorate.

Regarding the score of SAHL, Table 1 illustrated that 35 participants (33.4%) had low health literacy, 70 participants (66.6%) SAHL score ranged between 15 to 18. Among the 105 participants who took the SAHL score, the mean was SAHL score (15.13 ± 1.856) from the 105-participant sample size was then used to determine the health literacy levels of the female outpatients. The finding showed that the females in outpatient's clinics have adequate health literacy level [Table 2].

Table 1: Descriptive statistics of Short Assessment of Health Literacy-Arabic (SAHL-A) Scores.

| Score | Frequency | Percent | Cumulative Percent |
|-------|-----------|---------|--------------------|
| 9 | 1 | 1.0 | 1 |
| 10 | 1 | 1.0 | 2 |
| 11 | 4 | 3.8 | 5.8 |
| 12 | 1 | 1.0 | 6.8 |
| 13 | 12 | 11.4 | 18.2 |
| 14 | 16 | 15.2 | 33.4 |
| 15 | 20 | 19.0 | 52.4 |
| 16 | 21 | 20.0 | 72.4 |
| 17 | 24 | 22.9 | 95.3 |
| 18 | 5 | 4.7 | 100 |

Table 2: Mean and Standard Deviation of Short Assessment of Health Literacy-Arabic (SAHL-A) (N=105).

| Variables | N | Range | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|-----|-------|---------|---------|-------|----------------|
| Score of examinees | 105 | 9 | 9 | 18 | 15.13 | 1.85 |

Table 3 shows that the most common words that were incorrect among the outpatient's female. Common words found to be incorrect were pregnancy (43.8%), hemorrhoids (32.4%), and syphilis (81%).

Table 3: Common Incorrect Terms of Short Assessment of Health Literacy-Arabic (SAHL-A).

| Common Incorrect Phrase | Frequency | Percent |
|-------------------------|-----------|---------|
| Pregnancy | 46 | 43.8 |
| Hemorrhoids | 34 | 32.4 |
| Syphilis | 85 | 81 |

The correlations between the age and education variables and SAHL score scale are given in Table 4. The results of these analyses revealed no such a correlation was found between educational level and score of examinees ($p > 0.01$), also between age and score of examinees ($p > 0.01$).

Table 4: Correlations between age, educational level and SAHL Score of examinees (N=105).

| Variables | | Age | Educational Level |
|------------|---|-------|-------------------|
| SAHL Score | r | 0.092 | 0.136 |
| | p | 0.35 | 0.166 |

The model of multiple linear regression presents in Table 5, the age and SAHL score is not statistically significant ($F = 1.94$, $df = 1.103$, $sig = .166$), as well with education ($F = .880$, $df = 1.103$, $sig = .350$). That may be due to sample size and translation issues regarding the 18 SAHL versions.

Discussion

A little knowledge is available about health literacy among the females in Saudi Arabia. The purpose of this study was to

determine health literacy proficiency the females in outpatient's clinics. When analyzing the health literacy scores of participants, a mean of (15.13±1.856) was reported. The overall findings of this research assessed that the participants had adequate health literacy levels. This finding is consistent with those of Vang.^[35] However, whether it is sufficient to meet female's health needs in Saudi Arabia is questionable. Health literacy skills are conceived as an asset for maintaining or improving one's health.^[36]

Table 5: Multiple linear regression models of SAHL Score of examinees by age and education.

| Variables | SAHL Score | | | | | | |
|-----------|-------------------------------|------|-------|------|------|------|------|
| | Unstandardized Coefficients B | Beta | t | R | R2 | F | p |
| Age | 14.292 | .136 | 1.394 | .136 | .019 | 1.94 | .166 |
| Education | .185 | .092 | .938 | .092 | .008 | .880 | .350 |

Health literacy is considered a risk because it leads to ineffective use of resources, medication non-compliance, and poor self-management.^[20] Enhanced health knowledge and medical terminology can improve cognitive skills, which is a key factor to enhance critical health literacy.^[37] Individuals should have the ability to interact with the healthcare system to acquire information and have high assurance in their ability to use this information. Low health literacy skills consider as a barrier to access the health information and healthcare, medication use, and the prevention of disease.^[20] Institute of Medicine (IOM) claimed that Low health literacy is a widespread issue that affects people on an individual and nationwide as well.^[2]

Limited health literacy could have an impact on many people regardless their gender, age or the educational level. Women have different perceptions than men do regarding life and act and react in a variety of ways.^[38] Anyhow, health literacy seems to affect women more than men, possibly because women interact more with the healthcare system.^[39] This in turn, significantly affects women's health. The mother's Women's health literacy can influence their decisions and knowledge about family planning and care for their children and self.

Regarding the relationship between the age and level of health literacy, the current study revealed that there is no relationship between the age and level of health literacy among the females. Such this result contraindicated with Berens and colleague's study; the study assessed the health literacy among different age groups, the result revealed that the population affected by limited perceived health literacy increases by age.^[40]

The literature on health literacy has demonstrated a strong association between lower levels of education and poorer health outcomes.^[41,42] In the current study claimed that there is no correlation between the education level and level of health literacy. On another hand, Van der Heide et al.^[36] and Protheroe et al.^[43] contended that lower educational level associated with poor health literacy.

In the present study, we focused on age and education, in related to the health literacy. In future research, the role of other

indicators such as economic status, occupation, and gender can also be examined. There were several limitations to the study. The survey was conducted face-to-face, the cross-sectional design does not provide an overall conclusion behind the causes of low health literacy among the participants related to the insufficient time of the interview. Limited sample size (n=105) limits the generalization that can be made from the findings of the study. The data was collected in one setting; multiple settings were advised in the future.

Conclusion

Health literacy is an international health problem. There are limited studies to identifying the significant aspects of health literacy among the women in Saudi Arabia. There remain many opportunities for conducting further research to gain a better insight of the health literacy. It is important that health policies and programs in Saudi Arabia recognize the influence of gender on health and ensure that the specific and differential needs of males and females are being addressed throughout the life cycle.^[44] Based on the findings of the study, it is recommended that the Ministry of Health and the Ministry of Higher Education in Saudi Arabia must prioritize measures to reduce the incidence rate, by increasing the awareness programs among the community.

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Conflict of Interest

The manuscript has not been previously published and is not under consideration in the same or substantially similar form in any other journal. All those listed as authors are qualified for authorship and all who are qualified to be authors are listed as authors on the byline. To the author's knowledge, no conflict of interest, financial or other, exists. Each author has participated and contributed sufficiently to take public responsibility for appropriate portions of the content.

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