

Women's Health Literacy and its Related Factors in Mashhad, Iran

ABSTRACT

Background and Objective: Health literacy is the degree to which an individual has the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions. Women's health literacy is an important skill to participate in the prevention and promotion of public health. This study was aimed to investigate women's health literacy and some related factors in Mashhad.

Materials and Methods: This is a descriptive study that was performed on 400 women referring to cultural centers of Mashhad municipality in 2018-2019. A personal information questionnaire and a short form of functional health literacy questionnaire in adults were used to assess the data. Statistical software (SPSS 16) were used to conduct descriptive tests (Frequency, mean, and standard deviation) and analytical statistics (Kruskal-Wallis, Mann-Whitney, and ordinal logistic regression).

Results: The results of this study showed that 16.5% of women participants had inadequate health literacy, 19.8% had border health literacy, and 63.7% had adequate health literacy. Health literacy was significantly related with education, and with the improvement of education level, the score of health literacy also increases. However, no significant relationship between health literacy and age, income, marital status, and employment was observed.

Conclusion: More than one-third of women had inadequate or border health literacy. Considering the important role of women in family and community health and the impact of health literacy on this important role, it is necessary to design and implement educational programs to promote health literacy skills in them.

Paper Type: Research Article

Keywords: Health literacy, health promotion, women, demographic factors

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Introduction

In recent years, the concept of health literacy has received more attention in public health research and now it is considered as one of the essential factors and determinants of individual health and health service use (1). Health literacy is the degree to which an individual has the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions(2). Health literacy encompasses various skills needed to navigate the healthcare system, including print literacy (reading, interpreting and understanding written information), oral literacy (speaking / listening effectively), and numeracy (applying quantitative information) (3).

Some factors such as increasing non-contagious diseases, changing people's lifestyles, moving towards customer-orientation, increasing information about health in new development tools such as the Internet are factors that have led to increase the demand for patient participation in decision-making and disease management and increase the importance of health literacy. The process of health literacy can be seen as part of the development of individuals toward improve the quality of life. In society, health literacy leads to the fairness and sustainability of public health changes. Finally, low health literacy can be resolved by educating people and turning them into more useful resources such as increasing their health literacy(4).The key role of health literacy in benefiting from health services and improving the outcomes has been proven(5). Studies in the United States have shown that patient with low health literacy is more likely to be hospitalized and readmission within 30 days of discharge(6). Health literacy affects people's ability to take care of themselves and manage chronic diseases. People with limited health literacy often lack knowledge or have a wrong understanding of the body and the nature

and causes of diseases (7). These people may not be able to properly understand and use health information, therefore they are in poor health and have low medical compliance (8). Difficulty in communicating with health care providers, higher rates of mortality and morbidity, frequent visits to physicians, and increased health care costs are other consequences of inadequate health literacy(9).

European health literacy survey conducted in eight countries including Austria, Bulgaria, Germany, Greece, Ireland, the Netherlands, Poland and Spain (1000 persons in each country, sample number 8000 persons) showed that at least one-tenth (12%) had inadequate health literacy and 1 in 2 people (47%) had limited health literacy(10). A health literacy survey on China's population with 15- to 24-year-old showed that only 9% of participants had adequate health literacy(7). The results of a study by Lee et.al in Taiwan showed that 30% of the people had inadequate or borderline health literacy. Likewise, health literacy was significantly associated with having several diseases at the same time and poor access to health services(11). Evaluation of health literacy studies in Iran also showed that the status of health literacy in different groups is not favorable(12). Ghaffari et.al in a study aimed at evaluating health literacy in women referring to health centers in Zanjan reported that 22.6% of women participating in the study had inadequate health literacy and 22.3% had borderline health literacy(13). Morad Abadi et.al's studied on the pregnant women in Bandar Abbas. He showed that health literacy in almost half of mothers was inadequate and borderline (14) because women education is critical to promote the health of family and their children. Women have been identified as the primary population for improvement of health literacy level(15). Maternal health literacy is a significant concern

because pregnancy may be the initial encounter of woman with the health care system as well as woman's health status and her understanding of health information directly affect their child before conception, during pregnancy and during the formative years(15). Women's health literacy is an important element in their ability to participate in prevention and health promotion activities for themselves and their children. Without an adequate understanding of health information, it is difficult and even impossible for a woman to make informed decisions that lead to desirable health outcomes for herself and her family(5).

Regarding the above matters and the fact that women make up half of the human societies and any attempt to maintain and promote the health of society fails without regard to women's health, as well as the position of women is very important due to maternal and spouse role in the health of other family members, so it is necessary to be aware of the level of women's health literacy and following that, take interventions to modify and improve it. Therefore, the present study was conducted to investigate women's health literacy and some related factors in Mashhad.

Materials and methods

This descriptive study was performed using cluster random sampling method on 400 women referring to cultural centers in Mashhad in 2018-2019. The sampling method was as follows: first, a list of cultural centers was prepared and then two cultural centers were randomly selected among them. In the next step, the sample size was randomly selected among women referring to these two centers who were satisfied to complete the questionnaire and participate in the study. Questionnaires for people who were not literate enough, were read and completed by the researcher. To determine the sample size according to the study of Solhi et al.(16), 393

people were determined using the formula for estimating the mean of a quantitative variable and with 95% confidence, which these numbers was increased to 400 people for more accuracy. In order to achieve the research goals, demographic questionnaires and the short form of adult health literacy were completed by participants.

1- demographic questionnaire: This questionnaire consists of 5 items including age, level of education, marital status, employment, and income level.

2-Short form of functional health literacy in adults: this questionnaire is a summary version of TOFHLA which seems to be more practical due to its shorter completion time (7-10 minutes). This tool consists of two parts, which in the first part of the test, people complete health-related texts with correct words that have been omitted in the sentences of these texts. The second part is provided information about the doctor's prescription or the treatment process to learners. After reading this information, people answer its questions. The scores of individuals in this questionnaire are calculated from 0 to100. Scores less than 53 are considered as inadequate health literacy, 54 to66 as borderline health literacy, and 67-100 as adequate health literacy. In the study of Javadzadeh et.al, according to the criterion of 0.79, all the questions of this questionnaire had proper content validity. Also, this questionnaire had proper internal homogeneity, so that the Cronbach's alpha value was 0.69 for the computational section and was 0.78 for the reading comprehension section(17).

To conduct this study, the approval of the educational deputy of the Faculty of Health and an its official letter was received from the faculty, and the necessary permission was obtained to conduct the study in cultural centers. The questionnaires were completed as self-report

after explaining the objectives of the research and obtaining informed consent by the research samples. Finally, the collected data were analyzed by spss16 software. At the descriptive level, mean and standard deviation indices and at analytical level, to examine the relationship between health literacy and demographic variables, Mann-Whitney test (for two-state variables) and Kruskal-Wallis test (for variables more than two-state) were used. ordinal logistic regression was used to determine the effect of factors that affect level of health literacy. The Significant level was considered as $p < 0.05$.

Results

The mean age of the individuals was 34.22 ± 9.8 (ranged 14 to 65 years). In this study, 48.8% of the research samples had secondary education level. Most of the samples (84.3%) were unemployed. In terms of income, 41.5% of people earned

between one to two million Tomans per month, and 35% more than two million Tomans per month. The majority of participants (83.8%) were married Some women (16.5%) who participated in this study had inadequate health literacy. 19.8% had border health literacy and 63.7% had adequate health literacy. Health literacy was significantly related to age ($P=0.002$). In the age group under 40 years, more than 70% of the individuals had adequate health literacy. In the age group over 50 years, only 47.4% of individuals had adequate health literacy. There was a significant relationship between health literacy and education ($p < 0.001$). In illiterate people with primary education, 90% of them had inadequate and border health literacy and only 10% had adequate health literacy. The relationship between health literacy and marital status, employment and income was also significant ($p < 0.05$) (Table 1).

Table 1. Comparison of the relationship between demographic characteristics and level of health literacy among the study population

Variables		Frequency (%)	Health literacy			P	Mean Rank
			Inadequate	Boundary	Adequate		
			N (%)	N (%)	N (%)		
Age) years)	20 ≥	40(10)	4(10.0)	2(5)	34(85.0)	0.002>* P	204.8a
	21-30	86(21.5)	8(9.3)	10(11.6)	68(79.1)		195.29a
	31-40	150(37.5)	13(8.7)	20(13.3)	117(78.0)		193.82a
	41-50	77(19.2)	10(13.0)	19(24.7)	48(62.3)		165.75ab
	50 ≤	19(4.8)	5(26.3)	5(26.3)	9(47.4)		134.5b
Level of Education	Illiterate and elementary	30(7.9)	13(43.3)	14(46.7)	3(10.0)	0.001>* P	65.22a
	intermediate	45(11.9)	14(31.1)	11(24.4)	20(44.4)		129.59b
	Diploma	185(48.8)	8(4.3)	27(14.6)	150(81.1)		204.81c
	Academic	119(31.4)	5(4.2)	6(5)	108(90.8)		221.27c
Employment status	Employed	61(15.7)	3(4.9)	10(16.4)	48(78.7)	**p=0.04	207.94
	Unemployed	328(84.3)	39(11.9)	53(16.2)	236(72.0)	192.59	
Marital status	Married	325(83.8)	40(12.3)	55(16.9)	230(70.8)	0.001>** P	217.87
	Other (Widowed, divorced, single)	63(16.2)	2(3.2)	8(12.7)	53(84.1)		189.97
Income level	Less than 1 million Tomans	58(23.6)	8(30.8)	16(42.1)	34(18.7)	0.001>* P	105.57a
	1-2 million Tomans	102(41.5)	14(53.0)	16(42.1)	72(39.6)		118.75a
	Higher than 2 million Tomans	86(35)	4(15.4)	6(15.8)	76(41.8)		141.22b

* Kruskal-Wallis test ** Mann-Whitney test

Abnormal letters in the middle rank column show a significant difference between groups.

The chance of illiterate and elementary people to have adequate health literacy was 0.02 times that of university literate people and the chance of intermediate literate people to have adequate

health literacy was 0.1 times that of university literate people which was also statistically significant ($p < 0.001$). The other variables in the model have no significant relationship with health literacy (Table 2).

Table 2. Effect of education, employment, marriage and income on health literacy with ordinal logistic regression

Variables		OR(CI:95%)	P
Age(years)	20 ≥	4.34(0.44-43.38)	0.2
	21-30	0.89(0.17-4.48)	0.88
	31-40	0.73(0.34-5.52)	0.65
	41-50	1.37(0.34-5.35)	0.95
	*50 ≤	ref	
Level of Education	Illiterate and elementary	0.02(0.005-0.1)	<0.001
	intermediate	0.1(0.03-0.34)	<0.001
	Diploma	0.42(0.14-1.22)	0.11
	*Academic	ref	
Employment status	Employed	1.84(0.72-4.73)	0.2
	*Unemployed	ref	
Marital status	Married	0.29(0.08-1.08)	0.06
	*Other(Widowed, divorced, single)	ref	
Income level	Less than 1 million Tomans	0.47(0.17-1.26)	0.138
	1-2 million Tomans	0.67(0.26-1.7)	0.4
	*Higher than 2 million Tomans	ref	

* Referred to as a reference.

Discussion

The present study was aimed to determine women's health literacy and some related factors in Mashhad. The results showed that 63.8% of women had adequate health literacy. The findings of the study by Moshki et.al and Zaree et.al are similar to the findings of the present study(18, 19). However, in the studies of Peyman et al. and Hosseinpour et al., most of the women had insufficient health literacy or border health literacy(20, 21)(20, 21). The discrepancy in the findings may be attributed to differences in the level of literacy and social and demographic characteristics of the participants in these studies. The results of the present study

indicate a significant positive relationship between health literacy and education. This relationship has been reported in a number of studies including Tol et.al, Tavandari et.al and Elder et al, and it is in line with our study(5, 22, 23). During a report which was conducted by "Agency for Research and Quality in Health Care (2011)", it was declared that being low levels of health literacy is a major problem in the United States, and school years are a strong predictor of health literacy(24).

In our study, we did not find a significant relationship between age and health literacy, which is consistent with the results of some

studies(18, 25, 26). However, studies have pointed out that there is a negative correlation between age and health literacy(27, 28). Perhaps the reason for this discrepancy is the limited age range in the majority of participants in the present study who were under the age of 50 years. In a study conducted by Javadzadeh et .al on people over the age of 60 in Isfahan, more than 79% of the people surveyed had inadequate health literacy. The results of studies in other countries have shown a different range of health literacy in older age groups(29). Regarding the growing trend of the elderly population in Iran, it is necessary to pay more attention to health education at an older age.

Based on the findings of this study, no significant relationship was observed between health income and literacy, which is consistent with the results of the study by Ghaffari et. al and Kamalipour et. al(13, 26) . However, in the study of Baghaei et.al, Zairean et.al, and Tyler et.al, the relationship between health literacy and income was significant(25) (30) (31). The contradiction on the results of this study and other studies can be explained by the differences in the demographic characteristics of the populations, their access to health facilities, and the low sample size. Studies show that economic status is not a key determinant of health literacy and along with important factors such as education can play an important role in increasing health literacy. It seems that reaching a high economic level leads to more search to solve health problems, better access to well-equipped health centers and following that, more familiarity with health-related matters and through this way, increases health literacy(29).

The results of our study showed that there is no significant relationship between being employed and health literacy, which is consistent with the results of the study by Moshki et.al

and Bavandpour et.al (18, 32). In the study of Baghaei et.al and Ghanbari et.al, employed women had higher health literacy(25, 33). The low number of employed people in the studied samples can be considered as a reason to explain why this relationship is not significant. In this study, there was no significant relationship between marital status and health literacy, which is consistent with the results of the study of Bavandpour et.al and Mohseni et.al(32, 34). However, it is not consistent with the results of some studies in which married people had higher health literacy(35, 36). In the study of Sahrayi et.al, which was conducted to evaluate a health literacy in adults in Karaj, the prevalence of adequate health literacy in single persons was higher than others(24). Based on their results, we can have pointed to the differences in the target population of different studies.

Limitations: One of the limitations of this study was related to measuring the level of health literacy using a questionnaire used in this project.

The questionnaire emphasizes knowledge of reading and calculation. These skills are only part of the skills that constitute health literacy. Other skills (such as speaking and listening) are also important. Similarly, the limited generality and the dependence of the research results on time and space conditions are also the limitations of the research.

Conclusion

Health literacy score in more than 36% of women under study was inadequate or border. This prevalence often among people with low education and income. Since the foundation of community health depends on the health status of these people, especially women. Therefore, the need to empower this group and design various programs tailored to demographic

variables to promote health-related awareness that is recommended.

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