

Health Literacy of Kerman Province Educational Staff

Mahdie Shojaei Baghini

*Assistant Professor of Health Information Management, Medical Informatics Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran. (Corresponding Author): mahdiehsh@gmail.com

Sedighe Shojaei Baghini

District Education, Education Department of Kerman Province, Kerman, Iran.

Tahereh Naseribooriabadi

Assistant Professor of Health Information Management, Department of Basic Sciences, School of Medicine Shahroud University of Medical Sciences.

Received: 11 November 2019

Accepted: 01 February 2020

Doi: 10.22038/jhl.2020.45736.1093

ABSTRACT

Background and Objective: The purpose of this study was to examine the health literacy of Kerman province educational staff due to the significant influence of teachers on the level of education in society.

Materials and Methods: In this descriptive cross-sectional study, the research population included Kerman ministry of education teachers who were selected using sample size formula of Cochran and with a confidence level of 95%. Three hundred seventy-eight subjects were selected using available sampling method. The Health Literacy for Iranian Adults (HELIA) which has been confirmed in other studies regarding its validity and reliability was used. Data were analyzed using descriptive statistics and SPSS software.

Results: Most of the study sample included women (85%) with a bachelor's degree (52%). Most participants acquired the required information through the healthcare staff (26%) and internet (21%). The level of health literacy in reading skills was not sufficient (59.9%), access to information (76.4%) was sufficient, insight and understanding (65%) was not sufficient, information evaluation (46.5%) was insufficient and decision making (63.2%) was not sufficient. On the whole, the level of literacy of the sample was average (61.3%) which was not sufficient.

Discussion: Low level of health literacy is one of the main problems of community health. Meanwhile, due to the critical role of teachers in the growth of the community, improving the level of health literacy of this stratum is important. Therefore, empowering teachers and designing programs appropriate to health-related variables is essential and it is necessary to design and use sectors, such as educational centers, medical science and media universities, comprehensive educational programs and educational materials.

Paper Type: Research Article

Keywords: Health literacy, Adults, HELIA, Educational Staff.

► **Citation:** Shojaei Baghini M, Shojaei Baghini S, Naseribooriabadi T. Health Literacy of Kerman Province Educational Staff. *Journal of Health Literacy*. Winter 2020; 4(4):64-69.

Introduction

The discussion of health literacy, which has been posed in the 1970s in the world, is an undeniable necessity in the current era with all kinds of emerging illnesses(1). The World Health Organization has identified health literacy as one of the most important health indicators in countries and defined it as cognitive and social skills and the ability of individuals to understand and use existing information for health promotion and maintenance(2). Of course, for health literacy, there are several definitions, most of which have emphasized on the ability of individuals to acquire, analyze and understand information (3,4).

As defined, health literacy is not just the ability to read and write, but the ability of individuals to use sanity to promote their own and others' health. The level of acceptable health literacy makes people more relevant and better able to interpret and analyze their own health issues, and can better protect themselves and others from pathogens(3,4).

The results of various studies have shown that low health literacy reduces the use of preventive services, reduces the ability to perform physician orders, increases the cost of health care, and increases the incidence of hospitalization, as well as the mortality and difficulty of communicating with Health Services providers(5).

Despite the importance of health literacy and its impact on general health, Broucke(6); study indicated a low level of health literacy. Experts in the field of health in the country believe that despite the high level of information in the field of health, the level of awareness and use of public knowledge in this area is not satisfactory.

For example, the results of a national survey conducted by Kerman University of Medical Sciences showed that the level of health literacy in Iran is 29% (7). A study conducted in 2017

in the United States suggested that millions of people are affected by low health literacy and are not able to make informed decisions about their health (8). According to the 2006 report of the US Department of Education, 53 percent of adults had moderate health literacy, 22 percent had basic health literacy, 14 percent had inadequate health literacy and only 12 percent had good health literacy (9). In the UK, 42% of working-age adults are not able to understand and use health information, and 61% of adults are not able to learn about health information (10). Given the importance of health literacy, accurate identification of low literacy groups is essential for the promotion of these people. Meanwhile, due to the role of teacher model and influence and impact on community development, their health literacy levels are of high priority. As the behavior of students is very close to the behavior of teachers, and a teacher behavior has a crucial role in life which can be improved in various ways, such as imitation of modeling and sometimes replication(11); the present study was conducted to evaluate the health literacy among the educational staff of Kerman province.

Materials and Methods

This was a descriptive-analytical cross-sectional study, that present stud was conducted in 2019 in Kerman province, to determine the level of health literacy among the education staff in Kerman province. 378 subjects were selected as sample using the Cochran sample size formula and with a confidence level of 95%. The criteria for entering the study were the person employed at the time of study and their willingness to participate in the study. Data were collected using available sampling method.

The data gathering tool was Health Literacy

for Iranian Adults (HELIA) and its validity and reliability was confirmed in other studies(12). Before answering the questionnaire items, the research objectives as well as the confidentiality of the information were explained for the participants and, if accepted, the individuals entered the study.

The questionnaire consisted of two parts of demographic information and adult health literacy tools. The demographic information section included age, gender, marital status, educational level, insurance status, and source of information on health and illness. The health literacy questionnaire included 33 items; 4 questions for reading skills, 6 questions for access to health and disease information, 7 questions for understanding health information, 4 questions for health information assessment and 12 questions for decision making and behavior related to health and the use of health information. A 5-point Likert scale was used to answer the questionnaire (5 if the person always performs health behavior, 4 often, 3 sometimes, 2 rarely; and 1, never). For this purpose, the raw score of each individual in the sub-measures was obtained from the sum of scores. To convert this score to a range of 0 to 100, the following formula was used: Raw score obtained - Minimum possible raw score / Maximum possible score - Minimum possible score

In order to calculate the total score, the sub-scales scores were collected based on the range from 0 to 100 and divided into the number of sub-scales (5 dimensions). Then ranking of the health literacy level of the subjects was inadequate (0-50), limited (50-66) and adequate (66-84), excellent (84-100). Finally, the findings were analyzed using descriptive statistics and analytical statistics including Chi-square and Fisher's exact test. In all stages of the study, the significance level was considered to be less than 0.05 for

all statistical tests. Data were analyzed using SPSS-20 software.

Results

Of the 378 subjects studied, 85% were women. Also, most people were married (88%). Most of the subjects were aged between 40-50 years old (49.2%) and the lowest age group (8.5%). Work experience of most of the subjects was under 20 years (50%) and the lowest was 10 years. 52% had undergraduate degrees, 24% had a postgraduate degree, and 24% had a master's degree. Most people received the required information through questioning healthcare staff (26%) and internet (21%).

Sources of access to health information include: questions from friends and acquaintances (14.4%), radio and television (13.5%), booklets, pamphlets, educational and promotional brochures (10.8%), satellite networks (2.7%), newspapers, journals and magazines (4.5%) and interactive voice response (7.2%). Also, in 0.9% of cases, people were unaware of the sources of information.

The average rating of health literacy was 59.9, access to information 76.4, understanding information 65, evaluation of information 46.5, and decision making to use health information 63.2 (Table 1).

Table 1. The average scores of participants' health literacy according to the four dimensions of health literacy

Health Literacy Dimensions	Scores
Information reading	59.9
Information access	76.4
Information comprehension	65
Assessment and judgment	46.5
Information use	63.2

The average total level of literacy was 61.3. The results of Table 2 showed that there was no statistically significant difference between women

and men in any aspect of reading skills, access to health information, understanding, evaluation and application of health information ($p > 0.05$). Considering that the subjects were divided into four age groups of 20-30, 30-40, 40-50 and 50 years and older, the effect of age group on health literacy was also measured. The results of the study showed a significant difference between age groups regarding access to health information, comprehension, reading skills, evaluation and application of health information

differences ($p < 0.05$). There was also a statistically significant difference between different educational levels with access to health information, reading skills and health information evaluation ($p < 0.05$), but there was no significant difference between the educational level and the health information application ($p > 0.05$). In addition, the results of the study showed a significant difference between work experience and all aspects related to health literacy ($p < 0.05$).

Table 2. The relationship of health literacy with demographic characteristics of participants

Demographic Characteristics		Frequency	Percent	Significance Level
Age	20-30 years	32	8.5	Information reading $p=0.04$ Information access $p=0.04$ Information comprehension $p=0.03$ Assessment and judgment $p=0.03$ Information use $p=0.04$
	30-40 years	77	20.3	
	40-50 years	186	49.2	
	50 years and older	83	22	
Gender	Female	320	85	Information reading $p=0.11$ Information access $p=0.19$
	Male	58	15	
work experience	Less than 10 years	58	15	Information reading $p=0.04$ Information access $p=0.03$ Information comprehension $p=0.03$ Assessment and judgment $p=0.03$ Information use $p=0.04$
	10-20 years	131	35	
	20-30 years	189	50	
Grade	Associate Degree	91	24	Information reading $p=0.04$ Information access $p=0.03$ Information comprehension $p=0.03$ Assessment and judgment $p=0.03$ Information use $p=0.67$
	BSc	196	52	
	MSc	91	24	

Discussion

This study was conducted to evaluate the health literacy among employees of education staff in Kerman province. Findings indicated that the majority of people obtain health-related information through a questioning the doctors and health care providers. The results in terms of five dimensions of health literacy showed that the level of health literacy on the reading skills was not enough, access to information was enough, understanding of information was not enough, assessment of information was not enough and decision making was not

enough. In the whole, the health literacy of the majority of staff of Kerman province was not enough. Younger employees with higher levels of education also had a higher level of health literacy.

In the present study, there was no significant relationship between gender and any of the five dimensions of health literacy, which is consistent with the results of the study by (7,13,14,15); and was contradictory to the results of the (5,12,16,17,18,19,20); The lack of a meaningful relationship between gender and health literacy

can be due to the similarity of the population. The results of the study showed a significant difference between age and work experience with all aspects related to health literacy. Thus, the relationship between age and health literacy was a meaningful and reciprocal relationship, that is, the highest age group had the lowest health literacy score. This finding is consistent with the findings of the studies by (5,13–17); and was not consistent with the results of (18); In this study, there is a negative relationship between age and level of health literacy.

Of course, it should be taken into account that age alone is not a factor for health literacy (8), and other factors such as the level of education and economic factors can distort it. There was also a statistically significant difference between different educational levels with access to health information, reading skills and health information evaluation, but there was no significant difference between the educational level and the health information application. Thus, the higher the level of education in terms of access to health information, reading skills and health information evaluation, the higher the level of health literacy. The results of (13,16,17); showed a significant relationship between educational level and health literacy. On the other hand, this relationship was not significant in Ghanbari et al study (18). Lower levels of education, including risk factors, are very effective factors in lowering health literacy (19,20). Findings of the study by Rickard et al (21); in the United States, showed the relation between the social class and health literacy. Therefore, in order to reduce the impact of education on the level of health literacy, policy-makers of the health system need to use appropriate educational methods using simple images, examples and cultural examples through the media for people with lower literacy (15).

Conclusion

The findings of the study indicate the limited health literacy of teachers. Due to the wide-ranging impact of teachers and trainers on students, as the country's future makers, it is necessary to plan national programs on promoting health literacy of the teacher's community. In this regard, the design of various educational programs, including the provision of educational and written materials, workshops, the provision of radio and television programs along with other effective educational media, can be an effective step in improving the health literacy of individuals.

The present study was conducted on teachers. In order to achieve better results, a similar study on students is recommended.

Competing interests: The authors declare that they have no competing interests.

Funding: No financial support was received for this study

Acknowledgment: The authors of this article need to thank and appreciate the cooperation of all the education staff of Kerman province in implementing this research.

References

1. Pleasant A, McKinney J. Coming to consensus on health literacy measurement: an online discussion and consensus-gauging process. *Nurs Outlook*. 2011;59(2):95-106.e1. <https://doi.org/10.1016/j.outlook.2010.12.006> PMID:21402205
2. Hoseini R, Hoseini Z. Investigating Nutritional Literacy of Male Student Athletes Contributed in 2018 Iran University Games. *Journal of Health Literacy*. 2019;4(1):53-9. <https://doi.org/10.22038/jhl.2019.40251.1053>
3. Saeedy Golluche F, Jalili Z, Tavakoli R. The Study of Relationship Between Health Literacy and Nutritional Practice in High School Adolescents in Tehran. *Iranian Journal of Health Education and Health Promotion*. 2017;5(3):224-30. <https://doi.org/10.30699/acadpub.ijhehp.5.3.224>
4. Lael-Monfared E, Tehrani H, Moghaddam ZE, Ferns GA, Tatari M, Jafari A. Health literacy, knowledge and self-care behaviors to take care of diabetic foot in low-income individuals: Application

- of extended parallel process model. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2019;13(2):1535-41. <https://doi.org/10.1016/j.dsx.2019.03.008>
PMid:31336518
5. Tavakolikia N, Kheiltash A, Shojaeefar E, Montazeri A, Shariati M, Meysamie A. The most well-known health literacy questionnaires: a narrative review. *Soc Determ Heal*. 2017;3(2):104-13.
 6. Van den Broucke S. *Health literacy: a critical concept for public health*. Springer; 2014. <https://doi.org/10.1186/2049-3258-72-10>
PMid:24685171
PMCID:PMC3994208
 7. Ranjbar S-ATBAAHH all 9 authors Sahar F. Health literacy in 5 provinces of the country and the factors affecting it. *Strides Dev Med Educ*. 2007;1(4):9-18.
 8. Baker DW, Brown T, Buchanan DR, Weil J, Balsley K, Ranalli L, et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA Intern Med*. 2014;174(8):1235-41. <https://doi.org/10.1001/jamainternmed.2014.2352>
PMid:24934845
 9. Kutner M, Greenberg E, Jin Y PC. *The Health Literacy of America's Adults Results From the 2003 National Assessment of Adult Literacy* [Internet]. U.S. Department of Education. 2006. Available from: <https://nces.ed.gov/pubs2006/2006483.pdf>
 10. Equity UI of H. Improving health literacy to reduce health inequalities, Practice resource summary [Internet]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/460710/4b_Health_Literacy-Briefing.pdf
 11. Kheiri M, Taghdisi MH, Dehdari T, Rnajibar S, Mahdavi N, Nazarpouri A, et al. The Relationship between Quality of Life and Health Literacy among Nurses of the Largest Heart Center in the North West of Iran. *Journal of Health Literacy*. 2019;4(3):38-45. <https://doi.org/10.22038/jhl.2019.14347>
 12. Montazeri A, Tavousi M, Rakhshani F, Azin SA, Jahangiri K, Ebadi M, et al. Health Literacy for Iranian Adults (HELIA): development and psychometric properties. *Payesh (Health Monitor)*. 2014;13(5):589-99.
 13. Borji M, Tarjoman A, Otaghi M, Salimi E, Naseri A. Health literacy level and its related factors among the elderlies in Ilam in 2015. *Iran J Nurs*. 2017;30(108):33-43. <https://doi.org/10.29252/ijn.30.108.33>
 14. Naghibi A, Chaleshgar M, Kazemi A, Hosseini M. Evaluation of health literacy level among 18-65 year-old adults in Shahriar, Iran. *J Heal Res community*. 2017;3(2):17-25.
 15. Moeini B, Haji Maghsodi S, Kangavari M, Afshari M, Zavar Chahar Tagh J. Factors associated with health literacy and self-care behaviors among Iranian diabetic patients: A cross-sectional study. *J Commun Healthc*. 2016;9(4):279-87. <https://doi.org/10.1080/17538068.2016.1217968>
 16. Sahrayi M, Panahi R, Kazemi S-s, Rostam Z-G, Rezaei H, Jorvand R. The study of Health Literacy of adults in Karaj. *Journal of Health Literacy*. 2017;1(4):230-8. <https://doi.org/10.22038/jhl.2017.10955>
 17. Saatchi M, Panahi MH, Ashraf Mozafari A, Sahebkar M, Azarpakan A, Baigi V, et al. Health literacy and its associated factors: A population-based study, Hormuz Island. *Iran J Epidemiol*. 2017;13(2):136-44.
 18. Ghanbari A, Rahmatpour P, Khalili M, Mokhtari N. Health literacy and its relationship with cancer screening behaviors among the employees of Guilan University of Medical Sciences. *J Heal Care*. 2017;18(4):306-15. <https://doi.org/10.5812/semj.58665>
 19. Soto Mas F, Mein E, Fuentes B, Thatcher B, Balcázar H. Integrating health literacy and ESL: An interdisciplinary curriculum for Hispanic immigrants. *Health Promot Pract*. 2013;14(2):263-73. <https://doi.org/10.1177/1524839912452736>
PMid:22982707
PMCID:PMC3587681
 20. Falgas I, Ramos Z, Herrera L, Qureshi A, Chavez L, Bonal C, et al. Barriers to and correlates of retention in behavioral health treatment among Latinos in two different host countries: US and Spain. *J public Heal Manag Pract JPHMP*. 2017;23(1):e20. <https://doi.org/10.1097/PHH.0000000000000391>
PMid:26910867
PMCID:PMC5320890
 21. Rikard R V, Thompson MS, McKinney J, Beauchamp A. Examining health literacy disparities in the United States: a third look at the National Assessment of Adult Literacy (NAAL). *BMC Public Health*. 2016;16(1):975. <https://doi.org/10.1186/s12889-016-3621-9>
PMid:27624540
PMCID:PMC5022195