

The Health Literacy of Employees in Educational-Rehabilitation Centers Affiliated to The Welfare Organization

Mehnoosh Shahbazi

Department of Nursing, Hamadan University of Medical Sciences, Hamadan, Iran.

Zahra Mortazavi

PhD student of Speech Therapy, Tehran University of Medical Sciences, Tehran, Iran.

Zahra Nazemi

Student of Occupational Therapy, faculty of Rehabilitation, Iran University of Medical Sciences, Hamadan, Iran.

Khadije Ezzati- Rastegar

Health Education and Promotion, Department of Public Health, School of Health, Hamadan University of Medical Sciences, Hamadan, Iran.

Saideh-Sadat Mortazavi

* PhD Candidate, Department of Occupational Therapy, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. (Corresponding Author): s.mortazavi.ot@gmail.com.

Received: 08 October 2020

Accepted: 13 February 2021

Doi: 10.22038/jhl.2021.54838.1145

ABSTRACT

Background and Objective: Health literacy provides the capacity and basic understanding of health information and services for individuals to make health decisions. This study aimed to determine the health literacy of employees in educational-rehabilitation centers affiliated to the Welfare Organization of Hamadan province in 2019.

Materials and Methods: This cross-sectional study was conducted on 106 participations. Sampling was done by censuses method. Data was collected with the test of functional health literacy in adults (TOFHLA) and demographic questionnaire, and analyzed by, ANOVA, chi-squared tests via SPSS software version 21.

Results: The mean age of participants was 34.25 ± 8.19 years in females and 34.44 ± 8.60 years in males, and 90.57% were female, and 66.98% of them were married. The health literacy score was 65.90 ± 21.10 , and 32.29% of females and 40% of males were at an adequate level of health literacy. Level of health literacy was significantly different between participants with different education level ($P < 0.001$), type of rehabilitation center ($p = 0.001$), specialized services of the center ($P < 0.001$), and gender.

Conclusion: The level of health literacy of more than half of the employees in the rehabilitation-educational centers affiliated with the welfare organization is inadequate and marginal. Due to the vulnerability of welfare clients, it is necessary to pay more attention to health literacy in health promotion programs in this organization.

Paper Type: Research Article

Keywords: Health literacy, Disability, Educational-rehabilitation centers

► **Citation:** Shahbazi M, Mortazavi Z, Nazemi Z, Ezzati- Rastegar K, Mortazavi S. The Health Literacy of Employees in Educational-Rehabilitation Centers Affiliated to The Welfare Organization. *Journal of Health Literacy*. Winter 2021; 4(5): 48-55.

Introduction

With the development of societies, determination of the rights of the sick and disabled people, the emphasis on the human rights declaration, involving patients in treatment decisions has been considered as one of the priorities of healthcare providers (1). After this issue, a change has been made in the roles, expectations, and relationships of the treatment team, patients, the disabled, or their caregivers. In the past, physicians played a significant role in treatment decisions and made decisions for the disease alone (2). Today's patients are expected to play an active role in cooperating with the physician, exchanging information, and helping each other to make appropriate treatment decisions. Modern health systems increasingly rely on managing their own health. Such ability requires patients' literacy skills to understand health literacy information. However, it may be difficult for patients to participate in such an issue (3).

The concept of health literacy was recently developed. Health literacy is a new concept that entered the field of health promotion by Kichbush in 1997 (4). Health literacy is the capacity of acquiring, processing, and understanding the basic information and services required for making appropriate health decisions (5). Studies claimed that inadequate health literacy is associated with poor self-report of health, inappropriate use of medicines, failure to follow a physician's instructions, poor control of blood sugar, and blood pressure, increased prevalence of individual reports of poor health control problems, less participation in treatment decisions, and poor communication between the physician and the patient. Furthermore, the people with low health literacy are less aware of their health, fail to receive adequate

preventive services, have no desirable control over chronic diseases, have poorer physical and mental health performance, and use more emergency units and hospital services (6).

Studies suggested that educational interventions to improve the health literacy of staff are more effective in the improvement of patients' self-efficacy (7). Another study was shown the health literacy of urban child caregivers is limited (8), and the most important factors related to health literacy were education and insurance coverage (9). Inadequate health literacy of caregivers is more effective, especially for people with disabilities in terms of the health and recovery of clients. Studies emphasized that people with adequate health literacy have skills which can find, read health critically, and understand the improvement messages, treatment options, available services, and instructions from health professionals, and also use multiple websites and populist media to search (10). Nevertheless, not only the level of health literacy of caregivers is effective in this issue but also is effective in the literature and expression of the health expert team. Since medical services providers are not aware of the health literacy among the target group, they only rely on presenting information and use terms that are often difficult to understand. Thus, the information exchange fails to occur completely (3). Also, based on study that was conducted by Levasseur et al (2010), it is important that rehabilitation professionals be aware of the importance of health literacy and intervenes to improve it. The challenge is now to better understand how health literacy influences the effectiveness of rehabilitation and health outcomes (11).

Although, numerous studies in the field of health literacy were conducted, both inside the

country and abroad in different groups, believe that public and professional awareness in the field of health literacy is necessary. Therefore, in the 21st century, health literacy is considered as a global issue and the World Health Organization has recently introduced health literacy as one of the biggest determinants of health (12). Despite the necessity of the issue, the study on the health literacy of caregivers and educators of clients in the Welfare organization, whose clients involve a wide range of physical and mental disorders and are present in welfare boarding centers, are small. Thus, the present study aimed to investigate the health literacy of employees in educational-rehabilitation centers affiliated to the welfare organization in Hamadan province in 2019.

Materials and Methods

The present study was a cross-sectional study of descriptive-analytical type. The statistical population included the people who work in educational-rehabilitation centers affiliated to the Welfare organization, including the technical manager, trainer, caregiver, and service providers in Hamadan province in 2019. Samples were selected based on census. In this study, the level of health literacy of employees was measured in these centers. The data were collected once from each research unit and no intervention was performed. In this study, 106 employees included as statistical samples (out of 153 people) and they completed the questionnaire with personal satisfaction.

Inclusion criteria were employed in the educational-rehabilitation centers affiliated to the welfare organization, non-use of narcotics and psychotropic drugs, no psychiatric disorders, and age over 18 years. Exclusion criteria were unwillingness to complete the questionnaires or incomplete questionnaires. The data were

collected using demographic questionnaires and the TOFHLA questionnaire.

The demographic questionnaire included the information about the type of rehabilitation center, the specialized services of the center (mental retardation, hearing loss, autism, comprehensive center, and home care), the job in the center, age, sex, education level, and marital status. TOFHLA questionnaire (Test of functional health literacy in adults) is one of the most comprehensive and common standard tools in the field of health literacy assessment in the world. The validity and reliability of the questionnaire were confirmed in Iran (13-14). TOFHLA questionnaire consists of two parts including reading comprehension and calculations. In the reading comprehension part, the respondent's ability to read real texts related to health care was assessed. This part includes three texts related to instructions for preparing of upper gastrointestinal imaging, apart from patient rights and responsibilities on insurance sheets, and a standard hospital consent form, being set in form of 50 four-choice questions. In the calculation part, some cards containing explanations on medicines, appointments, steps to receive financial aid, and an example of blood sugar score were given to the individual, then the questions in this part, including 17 questions, were asked and the respondent answered.

Each of the 50 reading comprehension questions had one score (a total of 50 scores) and the point of 17 questions in the calculation part was obtained as 2.941 by multiplying the point of each question. In general, the score of this part of the questionnaire was 50 by multiplying and the total score of the questionnaire was calculated out of 100 (15). Scores 1-59 indicate inadequate health literacy scores 60-74 indicate borderline health literacy, and scores 75-100

indicate adequate health literacy (16).

Explanations were presented to all individuals at the time of distributing the questionnaires and sufficient time was considered for the careful study of the questionnaire and response to it. In addition, they were assured that their information would be kept completely confidential and their participation in the study was voluntary. The researcher was present at the time of filling out the questionnaires to answer the questions of the participants. The time period of this research was fall 2019 and the data were collected within two months. After completing the questionnaires, the data were analyzed in SPSS21 software by Kolmogorov- Smirnov test to measure the normality of data distribution ($P>0.05$) and, chi-square test.

Results

In this study, 106 people participated who working in educational-rehabilitation centers affiliated to welfare centers in Hamadan province. A number of 96 females with a mean age of 34.25 ± 8.19 years and 10 males with a mean age of 34.44 ± 8.60 years attended. A total of 71 (66.98%) of the participants were married and the female participating in the study worked in mental retardation centers (26%), autism centers (26%). The studied male worked in autism centers (30%), comprehensive centers (30%), home care centers (30%). Half of the males had the job of caring for adult clients. In addition, 36.9% of females had the job of teaching self-care skills or artistic activities. The education level of 52.1% of females and 60% of males were bachelor's degree (Table 1). The level of health literacy in both groups of males and females was often adequate (47.16%). Mean of health literacy in female and male were 64.96 ± 22.75 , 32.64 ± 10.23 , respectively

Table1. Demographic characteristics of the participants

Variables		Sex	
		Female N (%)	Male N (%)
Marital status	Single	29 (30.2%)	6 (60%)
	Married	67 (69.8%)	4 (40%)
Education	Under diploma	3 (30%)	27 (28.2%)
	Diploma & associate degree	0 (0%)	10 (10.4%)
	Bachelor	6 (60%)	50 (52.1%)
	Master's degree and higher	1 (10%)	9 (9.4%)
Specialized services of the center	Mental retardation	1 (10%)	25 (26%)
	Hearing loss	0 (0%)	11 (11.5%)
	Autism	3 (30%)	25 (26%)
	Comprehensive	3 (30%)	23 (24%)
	Home care	3 (30%)	12 (12.5%)
Position and job in the center	Technical manager	2 (20%)	11 (11.5%)
	Educator	5 (50%)	24 (25%)
	Caregiver	3 (30%)	38 (36.9%)
	Service provider & cook	0 (0%)	23 (24%)
Type of center	Daily center	6 (60%)	69 (71.9%)
	Boarding centers	4 (40%)	27 (28.1)
Age	Year	M \pm SD	M \pm SD
		34.25 ± 8.19	34.44 ± 8.60

The comparing results the health literacy of the people working in the studied research units by gender indicated that although the mean score of males in the field of calculation, reading comprehension, and the total score was higher than female's score, there was no statistically significant difference between the two groups (p -value = 0.80). The results of comparing the health literacy of the employees in the studied research units by the level of education indicated a significant relationship between the level of education of individuals with areas of calculation, comprehension, and reading and total health literacy score ($p < 0.0001$) and the health literacy

of the people with higher education was more.

The results of the chi-square test in the study indicated that the marital status of caregivers was not significantly related to health literacy levels ($p = 0.25$). In addition, the type of rehabilitation center (daily and boarding) and specialized services with health literacy levels

($p = 0.001$) had a significant relationship. The health literacy of the people working in daily centers was higher than the people working in boarding centers, and the health literacy of the people working in autism centers was higher than other centers. (Table2).

Table2. Relationship between health literacy and marital status, type of workplace and type of specialized services

Variables		Inadequate N (%)	Marginal N (%)	Adequate N (%)	P value
Sex	Male	5(50%)	1(10%)	4(40%)	0.024 =2X 0.87= p
	Female	45(46.87%)	20(20.83%)	31(32.29%)	
Marital status	Single	7(20%)	7(33.33%)	30(60%)	2.73 =2X 0.25= p
	Married	28(80%)	14(66.66%)	30(60%)	
Type of center	Boarding centers	17(49%)	0 (0%)	14(28%)	15.03 =Z 0.001= p
	Daily center	18(51%)	21(100%)	36(72%)	
Specialized services of the center	Mental retardation	10(28.57%)	6(28.57%)	10(20%)	32.38 =Z 0.001 > p
	Hearing loss	4(11.43%)	6(28.57%)	1(2%)	
	Autism	3(8.57%)	4(19.05%)	21(42%)	
	Comprehensive center	15(42.86%)	0 (0%)	11(22%)	
	Home care	3(8.25%)	5(23.81%)	7(14%)	

Discussion

The results of this study indicated that the level of health literacy of more than half of the employees in the rehabilitation-educational centers affiliated with the welfare organization is inadequate and marginal. Another study was showed 37% of caregivers of the patients with asthma had limited health literacy (8), and 70% of the parents had acceptable health literacy (17). Researchers stated that inadequate health literacy leads to a reduction in the patient's quality of life, worsening of the disease, and frequent hospital emergencies (18). The health literacy of caregivers varies in various groups of patients and the reason can be the differences in the samples. Although the mean score of males in the field of calculation, reading, comprehension, and the total score in this study was higher than

the score of females. Likewise, the level of health literacy in males and working females was not significantly different. In some study, there was no significant difference between the level of health literacy among mothers and fathers (19).

However, some studies showed the different level of health literacy among male and female, so that in a study was conducted by Chehri et al. (2015), mothers' health literacy in the areas of nutrition, growth, and development, as well as health information and its full score was reported higher than fathers' health literacy (20). The reason for this difference is due to the similarity of the items in the employment of caregivers, the scope of their duties, and their actions were also similar. In this regard, gender differences are not considered in their selection and employment.

The individual's health literacy who working Autism daily centers was higher than in other centers. Consistent with the present results, the study Khodabakhshi-Kolae et al. (2018) indicated that the mothers of children with autism had higher health literacy than the mothers of children with cerebral palsy and mental retardation (21). In interpreting this finding, it should be noted that people with autism show a wide range of symptoms that certainly require the attention and study of caregivers. Furthermore, the education and treatment of this group of patients have recently been considered by the ministries of welfare and health due to the prevalence of autism in society. More training workshops have been held for caregivers in these groups than in other groups.

Health literacy was higher among the employed people with higher education. In a study by Glick et al. (2019), higher education level led to better health literacy (7), and mothers reported better health literacy with increasing education (19). With the increase of the level of education, the ability of people to understand and reason increases about what they usually read and this has a positive effect on increasing the level of health literacy and health tips. Another finding of this study was the lack of a significant relationship between caregivers' marital status and their health literacy levels. Bavandpour et al. (2016) confirmed that married status had no significant relationship with health literacy (22) which is inconsistent with the findings of Goto et al (2019) who stated that married people in Japan had higher health literacy (23). In justifying this finding in the present study, since the working conditions of married and single caregivers are the same, the relevant workshops and related classes are likely the same for them, the result of which fails to make a difference in the level of health literacy.

Several limitations of the study must be acknowledged. A first limitation concerns the use of a self-report questionnaire. Staff might not have been willing to honestly report their information. The interviewees reported that some staff showed difficulties in understanding and answering questions. Although the questioner explained to them second, the TOFHLA was a longer version of this questionnaire. To avoid Withdrawal and fatigue in participants, they were complete it at different times. However, due to the limitations of this study, further investigation is necessary to support these findings and improve our understanding of the health literacy of employees in educational-rehabilitation centers affiliated with the Welfare Organization.

Conclusion

The results of this study indicated that the health literacy of people working in rehabilitation-educational centers affiliated to the Welfare organization including specialists and technical managers, educators, caregivers and service providers were marginal and inadequate. The variables of age, gender, and marital status were not the effective parameters in health literacy of the employees in the educational-rehabilitation centers. However, the health literacy of the people with higher education was higher. In addition, the health literacy of the people working in daily centers was higher than the people working in boarding centers and the health literacy of the people working in autism centers was higher than other specialized centers. Thus, it is necessary to plan treatment and educational strategies for increasing the level of health literacy of the employees in the relevant centers, considering the vulnerability of the clients.

Acknowledgment: The authors would like to thank the deputy of rehabilitation of the general department of Welfare of Hamadan province

and colleagues working in educational centers - rehabilitation related to welfare who participated in the implementation and completion of the research process. competing interests: The authors of this article state no conflicts of interest regarding this study.

Ethics approval and consent to participate: The present study was approved by the ethics committee on research in school of public health, Hamadan university of medical sciences in Hamadan with the code of IR.UMSHA.REC.1398.161. Verbal consent was also obtained from all participants.

Funding: This research was supported by the student research center of Hamadan university of medical sciences, Hamadan, Iran. The funding bodies played no role in the design of the study and collection, analysis and interpretation of data and in writing the manuscript.

Reference

- Haery SM, Tehrani H, Olyaeimanesh A, Nedjat S. Factors Influencing the Social Health of Employees of the Ministry of Health and Medical Education in Iran. *Iranian Journal of Health Education and Health Promotion*. 2016;3(4):311-8.
- Rudd RE, Moeykens BA, Colton TC. Health and literacy: a review of medical and public health literature. *Office of Educational Research and Improvement. Medical and Public Health. 1999Literature*. 1(5).1-44.
- Budych K, Helms TM, Schultz C. How do patients with rare diseases experience the medical encounter? Exploring role behavior and its impact on patient-physician interaction. *Health policy*. 2012;105(2-3):154-64. <https://doi.org/10.1016/j.healthpol.2012.02.018> PMID:22464590
- Janik-Koniewicz K, Herbeć A, Zatoński M, Rosik K, Młodziak I, Krajewski J, et al. Building health literacy in a Polish region: protocol for the POWER project in Lower Silesia. *Journal of Health Inequalities*. 2018;4(1):27-30. <https://doi.org/10.5114/jhi.2018.77645>
- McKenna VB, Sixsmith J, Barry MM. The relevance of context in understanding health literacy skills: Findings from a qualitative study. *Health Expectations*. 2017;20(5):1049-1060. <https://doi.org/10.1111/hex.12547> PMID:28402013 PMID:PMc5600250
- Fleary SA, Joseph P, Pappagianopoulos JE. Adolescent health literacy and health behaviors: A systematic review. *Journal of Adolescence*. 2018;62:116-127. <https://doi.org/10.1016/j.adolescence.2017.11.010> PMID:29179126
- Peyman N, Behzad F, Taghipour A, Esmaily H. Assessment of the effect of a health literacy educational program for health personnel on promoting self-efficacy among patients with chronic diseases. *Journal of Health System Research*. 2016;12(3):350-357.
- Fagnano M, Halterman JS, Conn KM, Shone LP. Health literacy and sources of health information for caregivers of urban children with asthma. *Clinical pediatrics*. 2012;51(3):267-273. <https://doi.org/10.1177/0009922811421413> PMID:21911409 PMID:PMc3295538
- Ghanbari A, Rahmatpour P, Khalili M, Barari F. The association between health literacy and health status among the staff of Guilan University of Medical Sciences, Iran. *Journal of Health System Research*. 2016; 12 (3) :381-387
- Saeedi Koupai M, Motaghi M. Comparing Health Literacy in High School Female Students and Their Mothers Regarding Women's Health. *Journal of Health Literacy*. 2017;1(4):220-9. <https://doi.org/10.22038/jhl.2017.10954>
- Levasseur M, Carrier A. Do rehabilitation professionals need to consider their clients' health literacy for effective practice? *Clinical Rehabilitation*. 2010;24(8):756-65. <https://doi.org/10.1177/0269215509360752> PMID:20543020 PMID:PMc3586249
- Fouladi N, Hazrati S, Shabani M, Nejaddadgar N. Investigating middle-aged health literacy in Ardabil. *Journal of Health Literacy*. 2017;2(1):39-44. <https://doi.org/10.22038/jhl.2017.10951>
- Jafari GS, Peyman N, Esmaeili H. Prediction of the Quality of Life of Menopausal Women Based on Health Literacy and Self-Efficacy. *Journal Of Education And Community Health*. 2020.7(1).29-36.
- Reisi M, Javadzade SH, Mostafavi F, Sharifirad G, Radjati F, Hasanzade A. Relationship between health literacy, health status, and healthy behaviors among older adults in Isfahan, Iran. *Journal of education and health promotion*. 2012;1(1):31-35. <https://doi.org/10.4103/2277-9531.100160> PMID:23555134 PMID:PMc3577376
- Ghanbari S, Majlessi F, Ghaffari M, Mahmoodi Majdabadi M. Evaluation of health literacy of pregnant women in urban health centers of Shahid Beheshti Medical University. *Daneshvar Medicine: Basic and Clinical Research Journal*. 2020;19(6):1-12.
- Ardakani AH, Sharifabad MAM, Rezapour Y, Ardakani AP. Investigation of the relationship of oral health literacy and oral hygiene self-efficacy with DMFT and Gingival index in students of Ardakan University. *Payesh (Health Monitor)*. 2015;14(3):351-62.
- Jimenez ME, Barg FK, Guevara JP, Gerdes M, Fiks AG. The impact of parental health literacy on the early intervention referral process. *Journal of health care for the poor and underserved*. 2013;24(3):1053-62. <https://doi.org/10.1353/hpu.2013.0141> PMID:23974380

18. Abrams EM. The Impact of Caregiver Health Literacy on Pediatric Asthma: An Integrative Review. *Pediatric Allergy, Immunology, and Pulmonology*. 2020;33(3):110-6. <https://doi.org/10.1089/ped.2020.1192>
19. Mozafari M, Borji M. Assessing the health literacy level of parents in School children ilam in 2015. *Journal of Nursing Education*. 2017;5(6):53-61. <https://doi.org/10.21859/jne-05068>
20. chehri M E, najafi mehri S, ebadi A, sarhangi. Assessing the health literacy level of parents of preschool children. *Iranian Journal of Pediatric Nursing(JPEN)*. 2015; 1 (4) :1-10
21. Khodabakhshi-Kolaei A, Rostami Goharni H, Kafashpour Marandi A. The comparison between health literacy and quality of life in three groups of mothers with cerebral palsy, Autism and intellectual impairments. *Journal of Health Literacy*. 2018;2(4):245-54. <https://doi.org/10.29252/jhl.2.4.4>
22. Bavandpour E, Azami Z, Bavandpour M, Afsordeh O, Delpisheh A. Survey effective factors of people's health literacy Kermanshah city. *Journal of Health Literacy*. 2017;2(2):81-7. <https://doi.org/10.18869/acadpub.jhl.2.2.81>
23. Goto E, Ishikawa H, Okuhara T, Kiuchi T. Relationship of health literacy with utilization of health-care services in a general Japanese population. *Preventive medicine reports*. 2019;14:100-108. <https://doi.org/10.1016/j.pmedr.2019.01.015> PMID:30815332 PMCID:PMC6377410