

Validation and Reliability of the Health Literacy Organization Checklist

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ABSTRACT

Background and Objectives: Health literacy organizations are doing a series of things in a health and healing environment to bring that environment to a level that makes it easier for people to understand and interpret health information. These items are designed in the checklist of Health Literacy Organization, so this study was conducted with the aim of validating the checklist of Health Literacy Organization in Iran.

Materials and Methods: This research was a cross-sectional descriptive analytic study that was conducted on the tool of the Health Literacy Organization that was designed during previous studies. First, the face validity assessment of the checklist was checked by 22 experts. Then, the content validity was done using the relative coefficient of content validity rate and the content validity index by 22 experts in the field of health literacy who have favorable clinical and technical university experiences. In the third stage, in order to evaluate the calculation of the reliability coefficient, the instrument was performed by two evaluators in 12 environments, including three hospitals, two clinics, five comprehensive health service centers and two pharmacies.

Results: During the content validity phase, 6 questions were removed from the list of 67 questions, and 3 questions were structurally modified. The questionnaire had a CVI of 0.919 and a CVR of 0.781. The score of the reliability coefficient for the checklist was 0.94, and if this index is higher than 0.8, it indicates a very favorable reliability. Ultimately, the checklist of 10 attributes and 61 questions was approved.

Conclusion: The evaluation checklist of Health Literacy Organization has the necessary psychometric features. Hence, it is suggested to use this tool, which is a native tool and has been prepared during various studies in Iran, to design and measure the organization of health literacy.

Paper Type: Research Article.

Keywords: Health, Health literacy, Health literacy organization.

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Introduction

Health literacy is emerging as a major problem in the field of health (1). Cross-sectional studies show that the limitation of health literacy has many complications in different areas of health. Things like lack of access to proper health services, less desire to pursue treatment, little medication compliance, increasing the number of visits to emergency rooms, increasing the length of the treatment period in the hospital and increasing the mortality rate has a significant effect on the use of health care services (2). Additionally, health literacy plays a vital role in self-care. When a society has a high level of health literacy, the number of diseases and treatment costs in the society decreases, but when the level of literacy in the society is low, it leads to an increase in chronic diseases and a decrease in the health of the society, and high treatment costs to both patients, and it also imposes on the society (3).

In Iran, based on a study in 2023, the level of health literacy is still insufficient (4). The definition of health literacy is the level of a person's capacity to obtain, interpret and understand information and health services, which are necessary for appropriate decision making (4). Owing to the complexity and wide range of concepts that are now included in the general term 'health literacy', health literacy is divided into two parts: individual health literacy and health literacy environment. These two components represent two dominant factors that influence the way a person accesses, understands, evaluates, and uses information (5). Individual health literacy includes the skills, knowledge, motivation, and capacity of an individual to access, understand, evaluate,

and use information to make effective health and health care decisions and appropriate actions and the health literacy environment is the infrastructure, policies, processes, materials, people and relationships that make up the health system and have an impact on how people access, understand, evaluate and apply information and services related to health (6). The health literacy environment includes systems, policies and protocols at the local, regional, judicial and national levels. These include issues related to hospital layout and design, health product packaging and design, referral pathways, social marketing, public health program design, care coordination processes, and the provision of education, support, and infrastructure for people about health and health care. It also includes how people work in the health care system, including communication processes and relationships between consumers and health care providers (7, 8).

Health literacy organization is the degree to which a healthcare organization implements strategies to make it easier for patients to understand health information, understand the healthcare system, participate in the healthcare process, and manage their health (9). The National Roundtable of the Health Literacy Organization also introduced the concept of health literacy health care organization, that is, an organization that makes it easy for people to move, understand, and use services and information to take care of their health (10). The National Roundtable of the Academy of Health Literacy has stated ten attributes of the health literacy organization, which are: leadership, integrating health literacy into programs, work force, using

populations to design, implement, and evaluate information, considers the needs of populations with a range of health literacy skills, avoiding targeting, use of health literacy strategies, easy access to health information, design, and distribution of print media, risk situations, it clearly states what health plans cover and who must pay for services (11). In Iran, based on the study of Charoghchian et al., ten attributes have been obtained for a health literacy organization, which are: organization management, integration of health literacy in the organization, human resources, participation, range of health literacy skills, health literacy strategies, access to information and Services, media diversity, organization's performance in critical situations and costs of programs and services (12). Based on these attributes, a checklist has been designed to evaluate the health literacy organization in Iran, and the purpose of this study is to validate this tool.

Materials and Methods

The present study is a descriptive-analytic cross-sectional study that was conducted in Mashhad in 2022. This study is a continuation of a previous study conducted in three phases. First, in order to investigate health literacy organizations in the world, a systematic review was conducted in 2020 and the main attributes of health literacy organizations in the world were extracted (13). Then, the attributes were entered into the comparative matrix to examine the aspects of similarity and difference, and the attributes that overlapped more than 30% were entered into the qualitative study of content analysis as a guide (12). The model obtained in the previous phase will then be

validated in two rounds using Delphi study in 2021 (5). In this step, 10 dimensions and 67 codes obtained from the previous steps were designed as a checklist, which were: Organization management (4 items), integration of health literacy in the organization (5 items), human resources (7 items), participation (5 items), range of health literacy skills (5 items), health literacy strategies (8 items), access Information and services (10 items), media diversity (12 items), organization's performance in crisis situations (7 items) and costs of programs and services (4 items). The items were designed as a checklist and an answer guide was also prepared. Scoring for this checklist is determined by three answers: Yes, Some, and No, where "Yes" is worth 2 points, "Some" is worth 1 point, and "No" is worth 0 points (Figure 1).

To evaluate the validation capabilities of the tool, the following steps were taken

1-Evaluation of face validity: the importance of questionnaire items from the point of view of the target community was evaluated by calculating the impact score by 22 people. Also, in this step, the apparent validity, reasonableness, appropriateness, attractiveness, comprehensibility and expressiveness, appropriateness to custom, culture and society, logical sequence of items, brevity, completeness of tools, adhesion to Persian grammar, usage from the right words, placing the items in the right place, the right scoring was done based on abstract judgment by some comprehensive people or experts.

2- Evaluation of content validity: In order to evaluate content validity, two indicators, content validity rate (CVR) and content validity index (CVI), are used. CVR is used to

evaluate the necessity of the item, and CVI is used to evaluate the relevance of the item. Twenty-two experts in the field of health literacy with good clinical and technical academic experience participated in this part

of the study. It should be noted that the reason why CVR and CVI values are not shown is because of the limitation of the number of tables. (14).

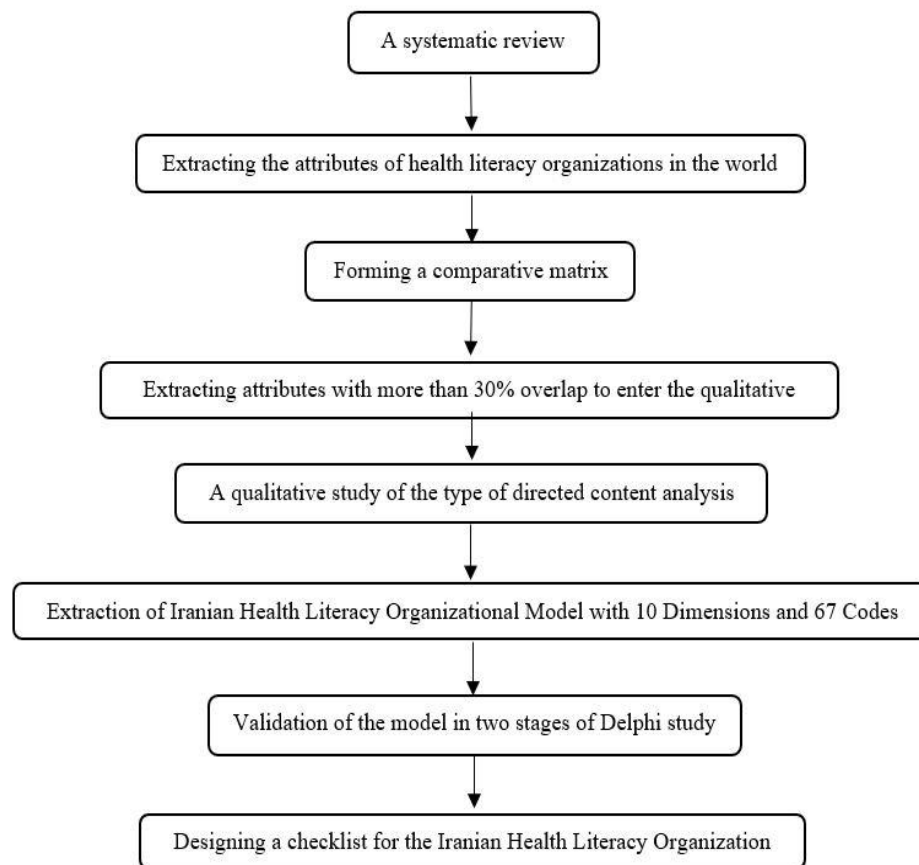


Figure 1. The stages of designing a checklist of the Iranian Health Literacy Organization

3- How to choose a healthcare setting is available. The evaluators visited the centers separately and at different times and completed the checklist. The completed checklists were entered into the Excel file and then the reliability coefficient was calculated using the following formula. In this method, if this index is higher than 0.8, it indicates a favorable reliability, between 0.6 and 0.79, average reliability, and less than 0.6, the reliability of the instrument is weak.

This coefficient is known as (Coefficient of stability) in test retest study.

$$r_c = 1 - \frac{\sum |d_i|}{n(MAX_{td})}$$

The conditions for entering the study in stages one and two were: Be Iranian, have a desire to participate in the study, be an expert in the field of health education and health promotion, or work in health care centers in Iran. The exclusion criteria were: The

questionnaire is incomplete. The conditions for the entry of evaluators in the third stage of the study were: He has a scientific activity in the field of health literacy and health literacy organization, he has interest and has the necessary and sufficient coverage of the designed checklist.

Results

Fifteen of the participants in the first phase (68%) were women, and 10 of the

participants in this study (45%) were university faculty members. Other attributes of the participants are listed in Table 1.

In the formal evaluation phase, there was a change in the arrangement of the attributes of the health literacy organization in the checklist. In this way, the order of attributes of the health Literacy organization is from: "1. Management of the organization, 2.

Table 1- The characteristics of the participants in the checklist validity

Sex	Age (years)	Work experience (years)	Occupation	Level of education
Male	59	30	Faculty	PhD in health education and health promotion
Female	42	12	Midwife	Master of Reproductive Health
Female	40	9	Faculty	PhD in health management
Male	33	4	Faculty	PhD in health education and health promotion
Male	52	27	Faculty	PhD in health education and health promotion
Female	50	6	Faculty	PhD in health education and health promotion
Male	39	15	Health care	Public health expert
Female	39	8	Nurse	Bachelor of Nursing
Male	60	34	Faculty	PhD in community health
Female	30	5	Nurse	Bachelor of Nursing
Female	45	6	Faculty	PhD in health education and health promotion
Female	35	5	Clinic manager	Master of Health Services Management
Female	50	17	Faculty	PhD in health education
Female	39	16	Health care	Master of Health Education
Female	40	16	Health care	Master of Health Education
Female	40	15	Health care	Master of Health Education
Female	44	21	Traditional medicine	PhD in traditional medicine
Female	54	22	Health care midwife	Master of Health Education and Bachelor of Midwifery
Female	35	5	Bachelor of Intelligence	Master of Health Education and Bachelor of Intelligence
Male	50	12	Faculty	PhD in nursing education
Female	40	5	Research Expert	PhD in health education and health promotion
Male	45	8	Faculty	Management of health services

Integration of health literacy in the organization, 3. Human power, 4. Participation, 5. Range of health literacy skills, 6. Health literacy strategies, 7. Access to information and services, 8. Media diversity, 9. Performance of the organization in critical situations and 10. Costs of programs and services" in the checklist was changed to the following arrangement: 1. Integration of health literacy in the organization, 2. Strategies, Health literacy, 3. media diversity, 4. human resources, 5. range of health literacy skills, 6. organization management, 7. participation, 8. access to information and services, 9. organization's performance in critical conditions and 10. Costs Programs and Services.

During the content validity phase, 6 questions were removed from the list of 67 questions, and 3 questions were structurally modified. The 6 questions that were removed were: A question about the attribute of human resources: "Are there employees in the organization with the ability to master the common languages of the clients?," A question of the attribute of health literacy skills domain: "Is essential information collected only once from clients to the organization?," A question about the attributes of health literacy strategies: "Are you talking to clients with a suitable voice (easily audible) and moderate speed?," Two questions about the attributes of access to information and services: "Is the number and arrangement of chairs in different departments of the organization suitable for clients?" and "Is there a suitable space for parking vehicles in the organization?" and a question about the costs of programs and

services: "Are there any forms for obtaining public assistance in order to provide the necessary funds to carry out health literacy activities in the organization?"

Two parts were also removed from two questions. The first part was related to the characteristic of health literacy skills domain, in question 31: "Are the clients welcomed upon entering the organization and their needs are assessed and recorded during the first contact?" Which, according to experts' opinions, turned into: "Are the client's needs assessed in the first call and recorded in the file?"

The second part was related to the feature of access to information and services in question 46: "Is there easy access to the methods of determining the time for the visit and the accuracy of the time of the visits in order to prevent the accumulation of people in the organization?" which, according to the opinion of experts, became "Is there easy access to appointment scheduling methods?"

The questionnaire had a CVI of 0.919 and a CVR of 0.781. The evaluators were two women with doctorate degrees in health education and health promotion who worked in the field of health literacy organization. Evaluators completed the checklist presented by the health literacy organization in 12 settings including 3 hospitals, 2 clinics, 5 general health services centers, and 2 pharmacies (Figure 2). Finally, the score of the reliability coefficient for the checklist was 0.94 (Table 2), which indicates a very good reliability if this index is higher than 0.8.

The checklist questions are given in Table 3 along with answer guidelines and scores for each question.

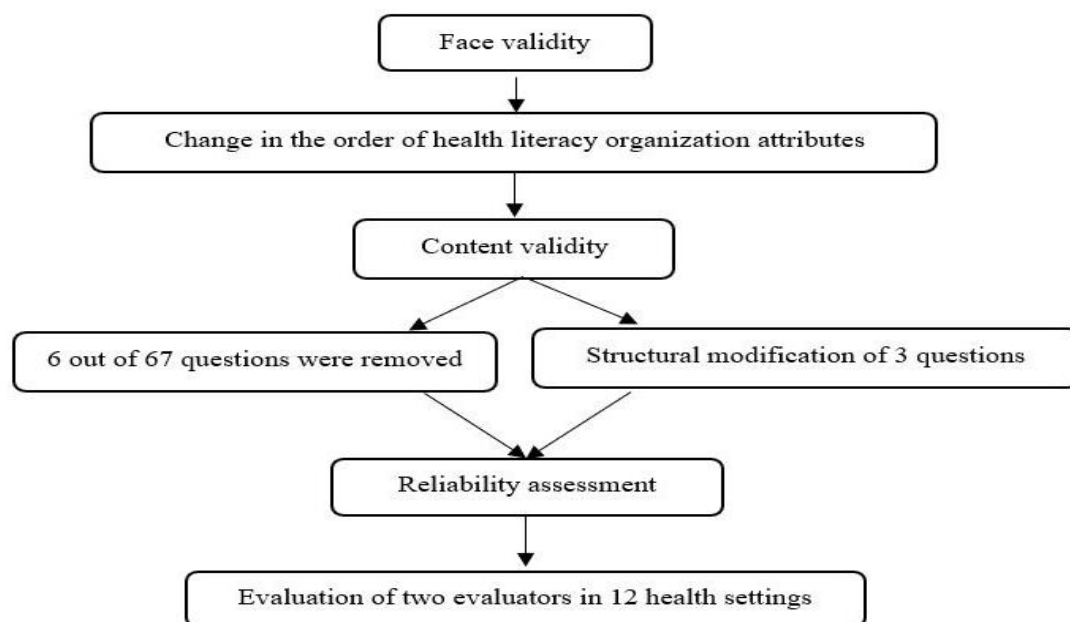


Figure 2. The stages of validation of the Iranian Health Literacy Organization checklist

Table 2-Checklist reliability

Attribute	1	2	3	4	5	6	7	8	9	10	Total
Reliability coefficient	0.98	0.98	0.98	1	0.82	0.89	0.94	0.95	0.95	0.90	0.94

Table 3- Checklist of Health Literacy Organization in Iran

Row	Questions	Guideline	Score
Integration of health literacy in the organization			
1	Is health literacy stated in the goals and statements of the organization?	Health literacy is mentioned in the mission and vision statement (Yes)*	2
		-	-
		Health literacy is not mentioned in the mission and vision statement (No)*	0
2	Are there specific guidelines for improving employee health literacy?	Specific instructions are available (Yes)	2
		-	-
		Specific instructions are not available (No)	0
3	Are there specific guidelines for improving the health literacy of clients in the organization?	Specific instructions are available (Yes)	2
		-	-
		Specific instructions are not available (No)	0
4	Is there any documentation about the implementation of health literacy in different programs in the organization?	Documentation is available and executive evidence is available. (Yes)	2
		Documentation is available and evidence of enforcement actions is not available. (Somewhat)*	1
		No documentation available. (No)	0
5	Is there any documentation on the evaluation of health literacy promotion activities within the organization?	Documentation is available. (Yes)	2
		-	-
		No documentation available. (No)	1

Row	Questions	Guideline	Score
Health literacy strategies			
6	Is simple, clear, and understandable language (no jargon used) used in the organization?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
7	Is the understanding of the material presented by the clients ensured by getting feedback?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
8	Are the clients' questions answered in the organization and are they encouraged to ask questions?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
9	Is enough time allocated for each interaction in the organization?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
10	Are the trainings provided according to the economic capacity of the clients in the organization?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
11	Is written training provided to customers according to their characteristics in the organization?	5 observations were made in this regard and it was used in all 5 observations. (Yes)	2
		5 observations were made in this regard, and it was used in only two observations. (Somewhat)	1
		Of the 5 observations made in this regard, less than two observations have been used. (No)	0
Media variety			
12	Is the number of messages limited and are short sentences used?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0

Row	Questions	Guideline	Score
13	Are the messages clear and understandable?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
14	Are the images used in educational media?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
16	Is the media economically viable?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
17	Is the media prepared for health literacy strategies?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
18	Does the media match the characteristics of the audience?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
19	Does the media attract attention?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
20	Is the media credible?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0
21	Is the media up to date?	5 media have been observed and it has been observed in all 5 media. (Yes)	2
		5 media have been observed, but only 2 media have been observed. (Somewhat)	1
		5 media have been observed but it has been observed in less than two media. (No)	0

Row	Questions	Guideline	Score
22	Are educational materials using health literacy strategies prepared in different formats within the organization and distributed through multiple channels?	Educational materials using health literacy strategies are written in different formats within organizations and distributed through a variety of channels. (Yes)	2
		Educational materials using health literacy strategies are prepared in-house but not distributed through multiple channels. (Somewhat)	1
		Educational materials have not been prepared using health literacy strategies in the organization. (No)	0
23	Are various media available in the organization for clients with different levels of health literacy?	Various media are available in the organization for clients with different levels of health literacy. (Yes)	2
		Various media are prepared in the organization for clients with different levels of health literacy, but they are not available. (Somewhat)	1
		Various media in the organization have not been prepared for clients with different levels of health literacy. (No)	0
24	Are there educational media in the organization that speak a common language with customers, and are they aligned with the health literacy strategy?	There are educational media in the common language of the clients in the organization and it is in line with health literacy strategies. (Yes)	2
		There are educational media in the common language of the clients in the organization, but they are not in line with health literacy strategies. (somewhat)	1
		There is no educational media in the common language of the clients in the organization. (No)	0
Work force			
25	Are all employees trained in health literacy?	There is a formal program for the training of all employees and there is documentation of its implementation. (Yes)	2
		There is a formal program for training all employees and there is no documentation of its implementation. (Somewhat)	1
		There is no formal program for training all employees and there is no documentation of its implementation. (No)	0
26	Is there someone responsible for teaching health literacy to employees within the organization?	There is an appointment order. (Yes)	2
		-	-
		There is no appointment order. (No)	1
27	Are all employees trained in the implementation of communication strategies related to health literacy in the organization?	There is a written program for teaching communication strategies to all employees and there are documentation of its implementation. (Yes)	2
		There is a formal program for teaching communication strategies to all employees, and there is no documentation of its implementation. (Somewhat)	1
		There is no formal program for training all employees and there is no documentation of its implementation. (No)	0

Row	Questions	Guideline	Score
28	Are educational materials related to health literacy prepared and available for employees in the organization?	Educational materials related to health literacy exist and are available for employees in the organization. (Yes)	2
		There are educational materials related to health literacy for employees in the organization, but they are not available. (Somewhat)	1
		There are no educational materials related to health literacy for employees in the organization. (No)	0
29	Have employees familiar with health literacy and its importance been employed in the organization?	Employees who are familiar with health literacy and its importance have been employed in the organization, and during interviews with the employees, all employees are familiar with health literacy. (Yes)	2
		Employees who are familiar with health literacy and its importance have been employed in the organization, and during interviews with the employees, only half of the employees are familiar with health literacy. (Somewhat)	1
		Employees familiar with health literacy and its importance have not been employed in the organization. (No)	0
30	Are the activities related to health literacy specified in the job description of the employees?	Activities related to health literacy are specified in the job description of employees and are available in writing. (Yes)	2
		The activities related to health literacy are specified in the description of the job duties of the employees, but there is no written form. (Somewhat)	1
		The activities related to health literacy are not specified in the job description of the employees. (No)	0
The range of health literacy skills			
31	Are the client's needs assessed in the first call and recorded in the file?	In the first call, it is evaluated and recorded in the file. (Yes)	2
		The client's needs are assessed and recorded in the file, but not in the first contact. (Somewhat)	1
		Clients' needs are not recorded. (No)	0
32	Are there specific instructions to ensure that the client's needs are met when leaving the organization?	There are specific instructions in this regard. (Yes)	2
		-	-
		There is no specific instruction in this regard. (No)	0
33	Is the client's need for additional assistance in the organization (unable to read and write, member receiving information in poor health, etc.) identified and directed?	Clients in need are identified and guided. (Yes)	2
		Clients in need are identified but not guided. (Somewhat)	1
		Clients in need are not identified. (No)	0
34	Are there specific guidelines for determining the health literacy status of clients in the organization?	There are specific guidelines for determining the health literacy status of clients in the organization. (Yes)	2
		-	-
		There is no specific instruction regarding determining the status of health literacy of clients in the organization. (No)	0

Row	Questions	Guideline	Score
Organization management			
35	Are employees who implement health literacy strategies in the organization appreciated?	It has been honored in the past year. (Yes)	2
		It has not been honored in the past year, but it has been honored in previous years. (Somewhat)	1
		Appreciation has not been done at all. (No)	0
36	Does the organization encourage other organizations to use health literacy by presenting acceptable evidence?	There is documentation about encouraging other organizations. (Yes)	2
		-	1
		There is no documentation. (no)	0
37	Has a person been appointed in the organization to supervise the implementation of health literacy?	There is an appointment order. (Yes)	2
		-	1
		There is no appointment order. (No)	0
38	Does the organization have policies and procedures for receiving and handling complaints from the public?	There is a fund and a dedicated e-mail for public complaints, and there is a dedicated person in charge. (Yes)	2
		There is a fund for receiving public complaints and a special email, but there is no one to answer. (Somewhat)	1
		There is no fund for receiving public complaints or e-mail in this regard. (No)	0
Participation			
39	Are clients surveyed regarding the choice of treatment methods by providing the necessary explanations to the client based on health literacy strategies?	Clients are surveyed regarding the choice of treatment methods by providing the necessary explanations to the client based on health literacy strategies. (Yes)	2
		Clients are surveyed about the choice of treatment methods without providing the necessary explanations to the client based on health literacy strategies. (Somewhat)	1
		Clients are not surveyed about the choice of treatment methods. (No)	0
40	Is there a written plan on how to use volunteers and health liaisons to provide services to clients using health literacy strategies?	There is a written program in this regard. (Yes)	2
		-	1
		There is no written program in this regard. (No)	0
41	Are there specific guidelines for employee participation in the planning of health literacy activities within the organization?	There are written instructions in this regard. (Yes)	2
		-	-
		There is no written instruction in this regard. (No)	0
42	Are there specific instructions for the participation of employees in the implementation of health literacy activities in the organization?	There are written instructions in this regard. (Yes)	2
		-	-
		There is no written instruction in this regard. (No)	0

Row	Questions	Guideline	Score
43	Are there specific guidelines for employee participation in the evaluation of health literacy activities in the organization?	There are written instructions in this regard. (Yes)	2
			-
		There is no written instruction in this regard. (No)	0
Access			
44	In the organization, is there easy access to information about the organization and the services provided?	Information about the organization and the services provided can be accessed through the organization's website and advertisements within the organization. (Yes)	2
		Information about the organization and the services provided can be accessed through the organization's website. (Somewhat)	1
		Information about the organization is not available. (No)	0
45	Are understandable signs and guides used in the organization?	Understandable signs and guides are used in the organization. (Yes)	2
		Some of the signs and guides in the organization are not easy to understand. (Somewhat)	1
		Understandable signs and guides are not used in the organization. (No)	0
46	Is there easy access to appointment scheduling methods?	There is easy access from at least three methods: telephone, internet and face-to-face. (Yes)	2
		There is easy access from only one method. (Somewhat)	1
		There is no easy access. (No)	0
47	Is it possible for clients to access reliable educational resources in the organization?	There are reliable educational resources available to clients. (Yes)	2
		-	-
		There are no reliable educational resources available to clients. (No)	0
48	Is it possible to access and refer people who need social service and charity centers to provide items and medicines and apply training in the organization?	It is possible to access and refer people who need social service and charity centers to provide items and medicines and apply training in the organization. (Yes)	2
		It is possible for people in need to access social service and charity centers, but they are not referred. (Somewhat)	1
		It is not possible to access and refer people who need social service and charity centers in the organization. (No)	0
49	Are all forms and documents in the organization designed in simple, understandable language?	5 forms were observed randomly and these points were observed in all 5 forms. (Yes)	2
		5 forms were observed randomly and only in two forms, this point was observed. (somewhat)	1
		Out of 5 randomly observed forms, this point has been observed in less than 2 forms. (no)	0
50	Are all materials distributed in the organization evaluated by getting feedback from clients?	Feedback is received from clients and documentation is available. (Yes)	2
		Feedback is received from clients, but its documentation is not available. (Somewhat)	1
		No feedback has been received from clients and its documentation is not available. (No)	0

Row	Questions	Guideline	Score
51	Are the forms and documents prepared in the common language of the clients and is it ensured that they are understandable by the clients?	It has been prepared in the common language of the clients and the feedback has been taken from the clients and its documentation is available. (Yes)	2
		It is prepared in the common language of the clients, but the feedback is not taken from the clients or there is no documentation. (somewhat)	1
		It is not prepared in the common language of the clients. (no)	0
The role of the organization in critical situations			
52	Is continuous and transparent information provided in critical situations in the organization?	Continuous and transparent information is provided in critical situations in the organization and its documentation is available. (Yes)	2
		Continuous and transparent information is provided in critical situations in the organization, but its documentation is not available. (Somewhat)	1
		Continuous and clear information is not done in critical situations in the organization. (No)	0
53	Is it ensured that the informed consent form is understandable to the client (e.g. consent form for surgery, etc.)?	The comprehensibility of the informed consent forms has been ensured for the clients and its documentation is available. (Yes)	2
		It has been ensured that the informed consent forms are comprehensible for the clients, but the documentation is not available. (Somewhat)	1
		The comprehensibility of the informed consent forms for clients has not been ensured. (No)	0
54	Are there educational aids such as pill boxes in the organization and are they used in the organization?	There are educational aids such as pill boxes in the organization and they are used in the organization. (Yes)	2
		There are educational aids such as pill boxes in the organization, but they are not used in the organization. (Somewhat)	1
		There are no educational aids such as pill boxes in the organization. (No)	0
55	Are facilities provided according to the needs of the people in the organization?	Out of 5 cases of observation of people in need of help, facilities have been provided to them in all cases. (Yes)	2
		Out of 5 cases of observing people in need of help, only two cases have been provided to them. (Somewhat)	1
		Out of 5 cases of observing people in need of help, facilities were provided to them in less than two cases. (No)	0
56	Are employees trained in critical situations in the organization?	Employees are trained about critical situations in the organization and its documentation is available. (Yes)	2
		Employees are trained about critical situations in the organization, but the documentation is not available. (Somewhat)	1
		Employees are not trained about critical situations in the organization. (No)	0

Row	Questions	Guideline	Score
57	Are clients trained in critical situations in the organization?	Clients are taught about critical situations in the organization and its documentation is available. (Yes)	2
		Clients are taught about critical situations in the organization, but the documentation is not available. (Somewhat)	1
		Clients are not taught about critical situations in the organization. (No)	0
58	Is the media prepared and distributed according to the critical conditions in the organization?	The media is prepared and distributed according to the critical conditions in the organization. (Yes)	2
		The media is prepared according to the critical conditions in the organization, but it is not distributed. (Somewhat)	1
		The media is not prepared according to the critical conditions in the organization. (No)	0
Costs			
59	Are the clients informed clearly and clearly about the costs before providing any type of service?	Clients are given clear and understandable information about costs before providing any type of service. (5 interviews with the client confirm this.) (Yes)	2
		Out of 5 interviews conducted, clear and comprehensible information was provided in only 2 cases. (Somewhat)	1
		Out of 5 interviews conducted, in less than 2 cases, clear and understandable information was given. (No)	0
60	Are clients provided with information about the cost covered by insurance and the cost paid by the client?	Clients are provided with information about the cost covered by insurance and the cost paid by the client. (5 interviews with the client confirm this.) (Yes)	2
		Information was provided in only 2 of the 5 interviews conducted. (Somewhat)	1
		Information was provided in less than 2 of the 5 interviews conducted. (No)	0
61	Has a specific budget been allocated to support health literacy activities in the organization?	A specific budget has been allocated to support health literacy activities in the organization and its documentation is available. (Yes)	2
		A specific budget has been allocated to support health literacy activities in the organization, but its documentation is not available. (Somewhat)	1
		No specific budget has been allocated to support health literacy activities in the organization. (No)	0

*A yes is worth 2 points, a somewhat answer is worth 1 point, and a no is worth 0 points.

Discussion

The purpose of this study was to verify the effectiveness of health literacy organizations in Iran. As the results of this study show, this tool has the necessary psychometric properties. This study is a continuation of three previous studies. Thus, in the study of the first stage, a systematic review study was

conducted in order to evaluate health literacy organizations in the world (13). Using the results of this study, a qualitative study was carried out in the form of content analysis to extract the characteristics of health literacy organizations in Iran (12), in which 10 topics, 21 subcategories and 67 codes were obtained. In the third stage, a Delphi study

was conducted (6) and in the first stage, the model was validated (consensus percentage 66.6 to 100 percent) but since the Delphi study cannot be implemented in less than two rounds, the second stage of Delphi was also conducted, and the numerical consensus percentage was between 80 and 100 percent. Then, the results were designed in the form of a checklist and grading was also intended for this checklist which a yes answer will get 2 points, a partial answer will get 1 point, and a no answer will get 0 points. For each question, an answer guide was also arranged so that based on this guide, the evaluators would score the checklist. First, the face validity assessment of the checklist was checked by 22 experts. Then the content validity evaluation, i.e. the ability of the selected questions to reflect the characteristics of the concept being measured, was performed by calculating the relative coefficient of content validity CVR and content validity index CVI by 22 experts in the field of health literacy who have favorable clinical and technical academic experiences which in this stage, 6 questions were removed and 2 questions were amended and changed, and finally 61 questions remained. In the third stage, to evaluate the calculation of the reliability coefficient of the tool by two evaluators in 12 environments, including three hospitals (Hashminejad, Bent al Hodi and Musa Ebn Jafar), two clinics (Razi and Shahr-dari Clinics), five comprehensive health service centers (Vahdat Center, Safari Center, Najafi Center, Ab and Bargh Center, Imam Ali Center) and two pharmacies (22 Bahman and Shahr-dari) and the total reliability coefficient of 0.94 was obtained, which is a very favorable reliability.

The tools obtained in our study were most compatible with the properties of the HLHO-10 (The Health Literate Health Care Organization 10 item Questionnaire), OHLO (Organizational Health Literacy Observation) and AHRQ (Agency for Healthcare Research and Quality) tools (16-18). The first feature in our final tool is the integration of health literacy in the organization, which is also present in the three tools HLHO-10, OHLO and AHRQ (15-17). Abrams and colleagues have recommended the integration of health literacy in organizational policies and procedures to improve and sustain health care measures and in order to integrate health literacy into the structure of the organization, they state that health literacy should be included in the goals and objectives of the organization. There should be statements of the organization and it should be ensured that the mission of the organization is health literacy measures (18). Organizations should develop guidelines for improving employee and client health literacy, as improving employee health literacy not only increases patient understanding of health information, but can greatly improve patient-provider interactions. Positive interactions between providers and patients are known to improve patient health outcomes. Because patients who are satisfied with their health care providers are more likely to adhere to treatment plans and participate in improving their health (19).

The second part of the tool in our study is health literacy strategies, which is a feature to increase communication between service providers and clients (24). which is found in 5 tools of the Health Literacy Organization,

which are HLHO-10, OHLO, AHRQ, HL-COM (Health Literacy sensitive Communication), Org-HLR (Organizational Health Literacy Responsiveness) (15-17,20,21). Improving communication between service providers and patients is one of the recommendations of the Centers for Disease Control and Prevention to improve limited health literacy (22). In the study by Berga et al., which examined the measures to improve the quality of the health literacy organization with the consensus of experts, among the 223 measures identified in the health literacy organization, the most measures, i.e., 56% of these measures, were in the field of communication (23).

The third part of the tool in the present study is media diversity, which is also present in the three tools HLHO-10, OHLO and AHRQ as one of the characteristics of the health literacy organization (15-17). Since the health literacy of patients is influenced by their good understanding of the educational materials that are provided to them, it is important to use health materials that are easy to understand, including audio-visual content and social media (24). Ryan et al. evaluated the readability of written health materials that are commonly distributed to patients and found that 29% of the evaluated materials were unsuitable for patients with limited health literacy (25). In addition to this, the media must have appropriate features, for example, Brach et al. believe that messages should be limited and short sentences should be used, and the amount of information included in each text should be limited to two or three main messages (24).

The fourth part of the tool of health literacy organization is human power, which

is found in 6 tools HLHO-10, OHLO, AHRQ, VHLO (Vienna Concept of Health-Literate Hospitals and Healthcare Organizations), Org-HLR, C-CAT (Communication Climate Assessment Toolkit) (15-17, 21, 26, 27). Cormier et al. believe that: "Health literacy education is very important in the educational programs of medical departments because medical department students often have limited knowledge in the field of health literacy and have difficulty in identifying patients with low health literacy" (28). While more research has been done on medical workers and paramedics, other health workers have been overlooked, Abzamer et al. It is recommended that all staff be prepared to take full advantage of health literacy through training, teaching, and measures to monitor progress (29).

The fifth part of the current tool is the domain of health literacy skills, which is also available in 4 tools HLHO-10, Org-HLR, OHLO and AHRQ (15-17, 21). In their study on the scope of health literacy skills, Burch et al. state Health literacy and healthcare organizations should create the following characteristics: 1- Create an environment where clients are welcomed and where the person is Doing not expect to have high health literacy. 2- Collecting simple and vital information and collecting them only once. 3- To overcome the obstacles faced by people with limited health literacy, use appropriate innovations and technologies. 3- Provide additional assistance to people who need personal attention (24).

The sixth component of the tools validated in this study is organizational management, which is present in 6 tools with this characteristic: Org-HLR, VHLO, C-CAT, HLHO-

10, OHLO, and AHRQ (15-17, 21, 26, 27). According to Brokowski, managers (leaders) of an organization can help employees cope with change, strive to achieve goals, and encourage them so that employees can share the vision of a health-literate organization (30). Brach, Dreyer, and Schillinger discussed the role of leaders in health literacy organizations and cited three reasons for seeking leadership support in organizations: 1- The leader actively participates in the decision-making of the organization. 2- Leaders are excellent health literacy champions and are easily available to promote user-friendly health information and services. 3- Considering the level of influence of the leaders, it is necessary to get their support to make the change and achieve the goals to improve the functions of the health literacy organization (31).

The seventh characteristic of health literacy organizational tool is participation, present in 6 health literacy organizational tools Org-HLR, VHLO, C-CAT, HLHO-10, OHLO, and AHRQ (15-17, 21, 26, 27). Coffingest et al. assessed the relationship between patient participation and health outcomes and hypothesized that patients who are more actively involved in healthcare decision-making would make better health choices (32). Hibbard et al. also evaluated the benefits of patient participation in health centers and found that actively involved patients benefited from gaining the skills, knowledge, and confidence needed to make good health decisions (9). Studies show that both patients and organizations benefit from the active participation of patients in making informed decisions about their health (33).

The eighth function of our tool is to access information and services, which can be found in 5 tools Org-HLR, VHLO, HLHO-10, OHLO and AHRQ (15-17, 21, 27). In the health literacy organization, it should be easy to access the information and services provided in the organization, that is, it is easy to access the location of the organization and the type of services provided. Now, this notice can be in different ways through the organization's website, advertisements published in the city, virtual space, etc. When the client enters the organization, there should be signs and guides inside the organization that are clear and descriptive, so that it is easy for the client to navigate. In the waiting rooms, reliable educational facilities such as playing educational videos or face-to-face training, using posters, educational banners, printed materials, etc. should be easily available to the clients. In order to determine the time of meeting, methods should be embedded in the organization to allow easy access for clients and to be accurate during the organization, in their study, Burch et al. confirmed these items and consider them to be among the items that should be included in the health literacy organization (24). Also, in a health literacy organization, there should be facilities to refer those in need to charity centers. In this regard, DeWalt and colleagues believe that customers in need should be asked questions about paying for drugs and seeking help in applying for drug coverage. And connect people with programs that help pay for drugs (34). As for regard to access to understandable and applicable information, the importance of ensuring that all people, especially those with limited health literacy, have access to health information and

services was widely discussed in a study commissioned by the Institute of Medicine. The authors recommended that organizations find ways to invest in improving health literacy by ensuring easy access to health information (35).

The ninth feature in this checklist is the performance of the organization in critical situations, the Swadsalamat organization is effective in meeting the needs of health literacy in high-risk situations, including the transfer of care and the use of medicines (31), Also, in critical conditions of the society, such as the Corona pandemic, it can have a significant impact on improving the health level of the society (12). 3 tools (AHRQ, OHLO, HLHO-10) (15-17) mentioned the organization's role in crisis situations as one of the characteristics of a health literacy organization. In critical situations, comprehensive information should be given to the organization and the level of their health literacy should be improved. Improving the level of health literacy in critical situations means that health organizations carry out processes to help patients in critical situations. Health literacy skills can be greatly reduced when dealing with critical issues, as patients are often highly emotional, more stressed, and may have difficulty focusing on their health. In times of crisis, promoting the use of health literacy measures ensures that patients have clear and comprehensible information when making decisions in times of distress. They need to understand consent forms to provide informed consent (36).

Another characteristic of the health literacy organization, which is also present in 4 tools (AHRQ, OHLO, Org-HLR, HLHO-10) (15-

17), is the issue of costs. Effectively communicating health plan and health care billing, such as co-payments, out-of-pocket costs, and other important but sometimes difficult information about health insurance (24). There are countless health insurance companies in the United States and numerous health insurance plans with specific guidelines on covered services, co-payments, deductibles, and how to file claims. For patients with insufficient health literacy skills, understanding health insurance plans can be challenging. Therefore, when explaining health program information, it is recommended that health service providers consider the importance and complexity of the information to promote people's understanding (30). Of course, there are costs for health literacy organizations to carry out activities, and health literacy organizations should consider a dedicated budget to support health literacy activities. Of course, this budget allocation will be paid after some time, because the implementation of health literacy in the organization will reduce costs. Because the results of the improvement of patients instead reduce the unnecessary use of health and treatment services, thus reducing health care costs (37).

This tool is the first designed for health literacy organizations in Iran. Among the limitations of this research was the evaluation of the checklist in only 12 environments, including three hospitals, two clinics, five comprehensive health service centers and two pharmacies, and it is suggested that this checklist be completed in more health environments. Another limitation of the researchers' participation in this study is the awareness of the concept of health literacy

organizations by a small number of experts and health center personnel, organization, it is suggested that specialists and personnel of health centers become familiar with the concept of health literacy organization by holding training courses. Then, based on the checklist, which is a suitable guide for the formation of health literacy organizations, the necessary interventions for the formation of health literacy organizations in Iran should be carried out.

Conclusion

This tool is a comprehensive, complete tool that often maps out what is necessary for organizational health literacy. The tool measures the needs of people referring to the organization in four stages: before entering the organization, after entering the organization, within the organization and upon leaving the organization. It also measures the necessary characteristics of managers and employees of health-literate organizations. By using this tool, it is possible to measure essential characteristics of the media available in an organization and to assess the role of a health-literate organization in critical situations.

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