



# Relationship between Health Literacy and Financial Literacy in the Elderly



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## ABSTRACT

**Aims** The identification of factors that affect health literacy in the elderly will aid in designing interventions aimed at promoting health literacy by focusing on these factors. Therefore, the present aimed to determine the relationship between health literacy and financial literacy among the elderly.

**Instrument & Methods** This cross-sectional study was conducted on 295 elderly in Urmia, Iran, who were selected using a multi-stage cluster sampling method in 2022. The data collection tools included a demographic information form, the Health Literacy for Iranian Adults Questionnaire, and the Financial Literacy Questionnaire. Data were analyzed using SPSS version 16, employing the Kolmogorov-Smirnov test, independent t-test, one-way ANOVA, and Pearson correlation coefficient.

**Findings** The mean health literacy score of the elderly participants was 64.38 out of 100, indicating a not very sufficient level. Additionally, the mean financial literacy score was 47.84 out of 100, reflecting a low level of financial literacy. A positive and significant correlation was found between financial literacy and health literacy ( $p < 0.001$ ,  $r = 0.60$ ).

**Conclusion** There are low levels of both financial literacy and health literacy among the elderly in Urmia, and financial literacy and health literacy are positively correlated.

**Keywords** Health; Literacy; Health Literacy; Elderly

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## Introduction

According to demographers, old age begins at the age of 60-65 years. Currently, the increasing elderly population is so significant that it is considered a silent revolution. It is estimated that by the end of 2050, the elderly population will comprise 16% of the world's population. Iran is also experiencing an increase in its elderly population. According to the 2016 census, 9.2% of Iranians are over 65 years old. This percentage is predicted to reach 14.8% by 2030 and 29.45% by 2050 [1].

Today, the main concern of researchers is not just to increase lifespan; rather, given the statistics, it is evident that if the primary health challenge in the 20th century was survival and increasing lifespan, the challenge of the new century is to live with superior quality [2]. Literacy is one of the important factors affecting well-being and health, especially among the elderly [3, 4].

Low literacy is a major challenge among people over 65 years old because most of the most important and influential medical and financial decisions (for example, selecting a health insurance plan, choosing complex medical options, managing retirement savings, and making intergenerational transfers) are made in old age. Literacy is now considered a multidimensional structure that encompasses a set of skills necessary for optimal functioning in society and achieving personal goals. Health literacy and financial literacy are two important fields of literacy, both of which have significant consequences for the health and well-being of the elderly [3, 4].

Health literacy includes the ability to access, understand, and use health information and concepts in a way that promotes good health outcomes [4]. The decisions and behaviors a person makes regarding his or her lifestyle are influenced by health literacy. In a report, the World Health Organization (WHO) has identified health literacy as one of the biggest determinants of health. Additionally, the WHO has advised countries around the world to create an association consisting of all stakeholders related to this issue to monitor and coordinate strategic activities aimed at promoting health literacy [5].

The results of various studies in Iran indicate that the health literacy of the elderly is at an insufficient level [1, 6]. Low levels of health literacy among the elderly are associated with increased mortality, reduced cognitive ability, diminished physical health, a higher risk of dementia, increased risk factors for chronic diseases, and the adoption of certain high-risk health behaviors [7]. Health literacy can be effective in improving self-care skills during old age, enhancing access to comprehensive elderly care services, reducing the burden of referrals to healthcare centers, and lowering the costs of the health system [7]. These factors highlight the need to focus on health literacy among the elderly. By identifying the effective factors, we can design and implement

various interventions, including educational initiatives, aimed at increasing health literacy among this population.

One of the factors effective in improving health literacy yet has received less attention, is financial literacy. Financial literacy encompasses the ability to access, understand, and use financial information and concepts in a way that promotes positive financial outcomes [4, 8]. It is a combination of financial awareness, knowledge, skills, attitudes, and behaviors necessary for making sound financial decisions and ultimately achieving individual financial well-being [9]. James *et al.* in the United States have reported a positive and significant correlation between health literacy and financial literacy among the elderly [3]. Additionally, based on another study conducted among the elderly in the United States, there is a positive and significant correlation between health literacy and financial literacy, with a strong association between health literacy and health-promoting behaviors. In contrast, financial literacy demonstrates a stronger association with mental health [4].

Households with higher levels of financial literacy tend to exhibit greater cognitive ability, a better understanding of health issues, and increased health knowledge. This encourages household members to avoid irrational behaviors (e.g., smoking) and promotes healthy behaviors (e.g., daily exercise and positive lifestyle choices) [8, 10]. Financial literacy, as a tool for rational decision-making, enables individuals to think and act more logically, thereby decreasing their involvement in activities that are detrimental to their health [8]. Individuals with higher financial literacy have access to more reliable information sources and can acquire accurate health knowledge through appropriate screening, thereby enhancing their health literacy. Consequently, improved financial literacy will promote health literacy [10].

Based on the information provided, the detrimental effects of inadequate health literacy on the elderly, the significance of recognizing factors influencing health literacy in this demographic, and the scarcity of research on the relationship between health literacy and financial literacy among the Iranian elderly, this study aimed to determine the relationship between health literacy and financial literacy among the elderly.

## Instrument and Methods

The present descriptive-analytical cross-sectional study was conducted in 2022 among individuals aged 60 years and older who were referred to comprehensive health service centers in Urmia, Iran. The inclusion criteria consisted of being 60 years of age or older, possessing sufficient literacy to answer the questionnaire questions, having adequate physical and mental health, being capable of completing the questionnaire, and providing consent

to participate in the study. The exclusion criterion was incomplete completion of the questionnaire.

The minimum number of samples required, based on previous similar studies and considering a standard deviation of 12.54 for the mean health literacy score of Iranian elderly [11], was calculated using a statistical confidence level of 95% ( $z=1.96$ ), a maximum acceptable error or accuracy of  $d=1.5$ , and the sample size formula for estimating the mean of a quantitative trait in a population. This resulted in an estimated sample size of 268. Finally, accounting for a possible 10% drop-out rate, the sample size was determined to be 295.

$$n = \frac{Z_{1-\alpha/2}^2 S^2}{d^2} = \frac{(1.96)^2 \times (12.54)^2}{(1.5)^2} = 268$$

The sampling method employed was a multi-stage cluster approach. Initially, Urmia was divided into two geographical areas, namely north and south. Then, one urban comprehensive health service center was selected from each area using a simple random sampling method and lottery. Next, by visiting the selected centers and coordinating with the heads of the centers, the required samples were collected based on the number of elderly who were referred to each center. This was done among the elderly who met the inclusion criteria and were willing to cooperate.

The data collection tools included a demographic information form, the Health Literacy for Iranian Adults Questionnaire, and the Financial Literacy Questionnaire. The first part included demographic information. The Health Literacy for Iranian Adults Questionnaire was designed and psychoanalyzed by Montazeri *et al.* [12]. This questionnaire contains 33 items and measures the level of health literacy in five dimensions, including access (six questions), reading skills (four questions), understanding (seven questions), appraisal (four questions), and decision-making and application of health information (12 questions). The questionnaire is scored using a five-point Likert scale. For the questions related to reading skills, a score of five is assigned to the "quite easy" option, a score of four to the "easy" option, a score of three to the "neither easy nor difficult" option, a score of two to the "difficult" option, and a score of one to the "quite difficult" option. For the other four dimensions of health literacy, a score of five is given to the "always" option, a score of four to the "most often" option, a score of three to the "sometimes" option, a score of two to the "rarely" option, and a score of one to the "not at all" or "never" option. The score for each dimension is obtained by summing the scores of the items related to that dimension, while the total score is calculated by summing the scores of all five dimensions. The score ranges are 6-30 for access, 4-20 for reading skills, 7-35 for understanding, 4-20 for appraisal, and 12-60

for decision-making and application of health information. The final scoring involves calculating the raw scores for the five dimensions of health literacy and then converting them into standard scores ranging from zero to 100. According to this scoring system, scores of 0-50 indicate insufficient health literacy, scores of 50.1-66 indicate not very sufficient health literacy, scores of 66.1-84 indicate sufficient health literacy and scores of 84.1-100 indicate excellent health literacy. The validity of the questionnaire was confirmed by Montazeri *et al.* using the qualitative content validity method, which involved 15 experts from various health fields. Additionally, the construct validity was confirmed through exploratory factor analysis. Its reliability was also established by calculating Cronbach's alpha coefficient, which ranged from 0.72 to 0.89 [12].

The Financial Literacy Questionnaire was developed by James *et al.* to measure the financial literacy of the elderly [3, 4]. This questionnaire contains 23 questions, with some requiring simple mathematical calculations and evaluating the ability to understand financial concepts such as interest and inflation rates. Additionally, some questions assess individuals' knowledge of financial terms and institutions, such as insurance companies, deposits, stocks, and bonds. All answer choices are multiple choice or true/false, with only one correct answer; thus, each item is scored as either correct or incorrect. The final scoring involves first calculating the raw score for financial literacy and then converting it into a standard score ranging from zero to 100. In most studies, financial literacy is classified such that a score of less than 60% is considered low financial literacy, a score of 60-79% is considered moderate, and a score of 80% and above is considered high financial literacy [13, 14].

The standard forward-backward method was used to translate the Financial Literacy Questionnaire [15], and its validity and reliability were subsequently checked and confirmed. First, the original English version of the questionnaire was translated into Persian simultaneously by two independent translators. Then, a meeting was held with a five-member panel consisting of translators and professors who had a strong command of the English language and psychometric experience with the questionnaire. The translations were examined, and after cultural adaptation, a final Persian version was prepared. Next, this Persian version was translated back into English by two other translators separately. Again, an English version was prepared from these two translations using the aforementioned method (five-member panel) and was compared with the original version. After the panel confirmed the translation and stated that the Persian version effectively conveyed the intended meaning, ten elderly from the target group were interviewed face-to-face to assess face validity using a qualitative method. During these interviews, the elderly participants discussed the level of difficulty,

appropriateness, and ambiguity of the questions. Their corrective comments were then incorporated into the questionnaire [16, 17]. To qualitatively confirm content validity, a panel of experts (ten experts in the fields of geriatric health, health economics, and epidemiology) was consulted. They were asked to evaluate aspects, such as grammar, appropriate word usage, the importance of the questions, the placement of each question, and the time required to complete the questionnaire. Their corrective comments were also included in the final version of the questionnaire [16, 17]. Cronbach's alpha coefficient was used to confirm the reliability of the questionnaires. To do this, the pilot questionnaire was administered to 30 elderly individuals in the target group, and Cronbach's alpha coefficient was subsequently calculated. A value of 0.743 was obtained, which was deemed acceptable [17]. The individuals who participated in this stage of the research were excluded from the final study.

Data were analyzed using SPSS version 16, employing

descriptive statistics (mean, standard deviation, frequency, and percentage), as well as analytical statistics, which included the Kolmogorov-Smirnov test (to assess data normality), independent t-test, one-way ANOVA, and Pearson correlation. The results were considered statistically significant at the  $p < 0.05$  level.

## Findings

The mean age of the participants was  $64.92 \pm 5.37$  years. Most participants were female (56.3%), within the age range of 60-64 (60.7%), married (87.1%), had a high school education level (31.2%), were housewives (39.7%), were self-employed (29.5%), reported a medium economic status (76.3%), had two family members (37.6%), and were covered by health insurance (96.9%). Most participants indicated that they had no specific physical diseases (78.6%) and were taking no specific medications (77.6%; Table 1).

**Table 1.** Frequency of demographic characteristics of the studied elderly (n=295)

Parameter		Values
Gender	Male	129(43.7)
	Female	166(56.3)
Age (year)	60-64	179(60.6)
	65-69	68(23.1)
	70-74	35(11.9)
	75-79	3(1.0)
	80-84	7(2.4)
	85-89	0(0.0)
	90-94	3(1.0)
Marital status	Married	257(87.1)
	Widow	38(12.9)
Level of education	Elementary	41(13.9)
	Middle school	58(19.7)
	High school	92(31.2)
	Diploma	73(24.7)
	Associate degree	13(4.4)
	Bachelor's degree	10(3.4)
Having physical diseases	Yes	63(21.4)
	No	232(78.6)
Taking specific drugs	Yes	66(22.4)
	No	229(77.6)
Job status	Unemployed	32(10.8)
	Housewife	117(39.7)
	Government employee	46(15.6)
	Manual worker	13(4.4)
	Self-employed	87(29.5)
Economic status	Weak	13(4.4)
	Medium	225(76.3)
	Good	48(16.3)
	Excellent	9(3.1)
Number of family members	1	13(4.4)
	2	111(37.6)
	3	85(28.8)
	4	63(21.4)
	5	23(7.8)
Health insurance	Yes	286(96.9)
	No	9(3.1)
Health status	Excellent	15(5.1)
	Very good	61(20.7)
	Good	146(49.5)
	Fair	58(19.7)
	Poor	15(5.1)



**Table 2.** Frequency of health literacy dimension levels among the studied elderly (n=295)

Dimension	Insufficient	Not very sufficient	Sufficient	Excellent
Access	78(26.4)	127(43.1)	57(19.3)	33(11.2)
Reading skills	115(39.0)	84(28.5)	54(18.3)	42(14.2)
Understanding	84(28.5)	83(28.1)	72(24.4)	56(19.0)
Appraisal	107(36.3)	79(26.8)	80(27.1)	29(9.8)
Decision-making and applying health information	15(5.1)	136(46.1)	75(25.4)	69(23.4)
Total	39(13.2)	126(42.7)	88(29.8)	42(14.2)

**Table 3.** Mean scores of health literacy dimensions and financial literacy among the studied elderly (n=295)

Parameter	Dimensions	Mean score*	Score range	Obtained range	Mean score (out of 100)
Health literacy	Access	18.34±5.71	6-30	8-30	61.14±19.04
	Reading skills	12.17±3.78	4-20	4-20	60.89±18.91
	Understanding	22.63±6.58	7-35	12-35	64.67±18.81
	Appraisal	12.14±3.83	4-20	4-20	60.72±19.18
	Decision-making and applying health information	40.92±10.07	12-60	23-60	68.20±16.79
	Total	106.22±25.69	33-165	60-164	64.38±15.57
Financial literacy	Total	11.00±4.64	0-23	0-20	47.84±20.18

\*Calculated based on the scoring system of the questionnaires.

**Table 4.** Correlation matrix between financial literacy and health literacy and its dimensions among the studied elderly (n=295)

Parameter	7	6	5	4	3	2	1
1- Financial literacy	0.59	0.37	0.58	0.48	0.44	0.60	1
2- Total health literacy	0.89	0.77	0.88	0.84	0.39	1	
3- Access	0.65	0.70	0.60	0.69	1		
4- Reading skills	0.60	0.70	0.80	1			
5- Understanding	0.73	0.58	1				
6- Appraisal	0.55	1					
7- Decision-making and applying health information	1						

Significance level: p<0.001.

Most of the elderly participants exhibited a not very sufficient level of access (43.1%), an insufficient level of reading skills (39.0%), an insufficient level of understanding (28.5%) and a not very sufficient level (28.1%), an insufficient level of appraisal (36.3%), a not very sufficient level of decision-making and applying health information (46.1%), and a not very sufficient level of total health literacy (42.7%; Table 2).

Most of the elderly participants were at a low (192, 65.1%) level of financial literacy, followed by moderate (85, 28.8%) and high (18, 6.1%). The total health literacy of the elderly participants was 64.38 out of 100, which, is considered to be at a not very sufficient level, while their financial literacy was 47.84 out of 100, which is classified as a low level (Table 3).

There was a positive and significant correlation between financial literacy and total health literacy, as well as its dimensions. Thus, as the financial literacy of the elderly participants increases, their level of health literacy and its associated dimensions also show improvement (Table 4).

According to the independent t-test results, there was a statistically significant relationship between financial literacy and both gender and marital status. Specifically, the financial literacy of male elderly participants was higher than that of female elderly participants, and the financial literacy of widowed elderly individuals was higher than that of married elderly individuals. Additionally, there was a statistically significant relationship between health literacy and health insurance coverage. The mean health literacy score of the elderly not covered by

insurance was significantly higher than that of those who are covered. The results of the independent t-test also indicated a statistically significant relationship between health literacy and financial literacy with respect to having physical diseases and taking specific medications. Therefore, the mean scores of health literacy and financial literacy among elderly suffering from physical diseases were significantly higher than those of elderly who are not suffering from such diseases, and the same was true for those who take specific medications compared to those who do not (Table 5).

The results of one-way ANOVA showed a statistically significant relationship between health literacy and financial literacy with age. Subsequently, the Bonferroni post hoc test was used to examine the differences between the various age groups in pairs. According to the findings, the mean health literacy score in the age group of 60-69 years and those aged 84 years and above was significantly lower than that in the age group of 70-84 years. Additionally, the mean financial literacy score in the age group of 65-79 years was significantly higher than in the other age groups (60-64, 80-84, and 84 years and above), while the mean financial literacy score in the age group above 84 years was significantly lower than in the other age groups.

There was a statistically significant relationship between health literacy and financial literacy with respect to the level of education. The mean scores of health literacy and financial literacy in the elderly with bachelor's and master's degrees were significantly higher than those in other educational groups. Additionally, a statistically significant

relationship was found between health literacy and financial literacy with job status. The mean scores of health literacy and financial literacy were significantly higher among housewives and government employees compared to manual workers, self-employed individuals, and the unemployed, who had lower scores compared to other job groups. Furthermore, a statistically significant relationship existed between health literacy and financial literacy with economic status. The mean scores of health literacy and financial literacy in the elderly with excellent economic status were significantly higher than in other economic groups, while those in the weak and medium economic status groups had significantly lower

scores compared to the good and excellent groups. A statistically significant relationship was also observed between health literacy and financial literacy with the number of family members. The mean scores of health literacy and financial literacy in the elderly with one or two family members were significantly higher than in other groups, while the elderly with five family members had significantly lower scores compared to other groups. Lastly, a statistically significant relationship was found between health literacy and financial literacy with general health status. The mean scores of health literacy and financial literacy in the elderly with excellent general health status were significantly higher than those in other groups (Table 5).

**Table 5.** Mean scores of health literacy dimensions and financial literacy according to demographic information of elderly (n=295)

Parameter		Financial literacy	Health literacy
Gender	Male	53.35±21.15	65.47±19.02
	Female	43.55±18.33	63.53±12.24
	p-value <sup>†</sup>	<0.001	0.314
Age groups	60-64	42.02±18.37	62.46±13.36
	65-69	59.52±14.35	64.07±20.43
	70-74	58.63±26.70	73.19±13.36
	75-79	47.82±00.00	78.78±00.00
	80-84	39.13±00.00	73.33±00.00
	90-94	24.63±5.02	47.27±00.00
	p-value <sup>‡</sup>	<0.001	<0.001
Marital status	Married	46.67±20.30	64.20±15.90
	Widow	55.72±17.64	65.55±13.22
	p-value <sup>†</sup>	<0.010	0.572
Level of education	Elementary	49.20±20.47	69.38±5.80
	Middle school	53.14±24.36	65.64±14.72
	High school	38.84±12.49	54.57±11.03
	Diploma	46.51±20.78	64.91±16.51
	Associate degree	52.17±3.07	69.60±7.11
	Bachelor degree	73.91±00.00	90.48±6.14
	Master degree	78.26±00.00	97.57±00.00
	p-value <sup>‡</sup>	<0.001	<0.001
Having physical diseases	Yes	54.10±21.58	68.71±12.8
	No	46.13±19.48	63.20±16.06
	p <sup>†</sup>	<0.005	<0.012
Taking specific drugs	Yes	54.80±21.16	71.70±13.09
	No	45.83±19.47	62.26±15.61
	p-value <sup>†</sup>	<0.001	<0.001
Job status	Unemployed	75.95±15.10	81.68±18.35
	Housewife	46.71±20.34	68.01±11.55
	Government employee	48.39±14.59	67.07±16.78
	Manual worker	34.11±19.75	51.18±2.27
	Self-employed	40.77±14.53	53.67±10.20
	p-value <sup>‡</sup>	<0.001	<0.001
Economic status	Weak	57.19±13.61	60.00±17.90
	Medium	43.69±17.80	61.62±14.66
	Good	59.32±24.12	73.38±11.19
	Excellent	76.81±5.75	91.44±10.95
	p-value <sup>‡</sup>	<0.001	<0.001
Number of family members	1	63.54±4.17	74.91±16.69
	2	55.11±22.72	71.08±15.83
	3	41.99±15.81	58.93±11.33
	4	43.40±18.52	62.47±15.57
	5	37.61±14.86	51.40±8.30
	p-value <sup>‡</sup>	<0.001	<0.001
Health insurance cover	Yes	47.93±20.40	64.17±15.75
	No	44.92±11.50	70.77±5.07
	p-value <sup>†</sup>	0.473	0.004
Health status	Excellent	76.23±2.24	97.29±0.31
	Very good	36.84±16.00	59.52±10.96
	Good	45.08±19.86	64.48±14.62
	Fair	55.47±18.16	61.19±15.72
	Poor	61.44±10.50	62.50±6.95
	p-value <sup>‡</sup>	<0.001	<0.001

<sup>†</sup> Independent T-test; <sup>‡</sup> One-way ANOVA

## Discussion

This study aimed to determine the relationship between health literacy and financial literacy among the elderly. The health literacy of the elderly in Urmia was at a not very sufficient level. Consistent with this finding, many national and international studies have reported that the health literacy of the elderly is low and insufficient [18-22]. For example, in studies conducted by Sabooteh *et al.* in Dorood [18] and Goli Roshan *et al.* in Babol [19], the mean health literacy scores of the elderly are 56.45 and 60.21, respectively (out of a total score of 100), which were considered to be at a not very sufficient level. In a study conducted by Mahmoodi *et al.* in Farsan, the mean health literacy score of the elderly is 49.9 (out of a total score of 100), which is classified as an insufficient level [20]. In a study conducted by Sangsefidi *et al.* in Bojnurd, the level of health literacy among the elderly is insufficient [21]. Additionally, in a study conducted by Fırat Kılıç *et al.* in Turkey, the level of health literacy of the elderly is relatively low [22]. This issue has heightened the healthcare system's concern regarding the aging crisis. Therefore, to address this challenge, planning at the macro level to improve the health literacy of the elderly seems necessary.

The financial literacy of the elderly in Urmia was at a low level. Consistent with this finding, in a study by Kiaei *et al.* in Qazvin, the mean financial literacy score is 51.6 (out of 100), which is classified as a low level [23]. In contrast to our findings, studies conducted by James *et al.* [3] and Bennett *et al.* [4] in the United States have reported mean financial literacy scores of 72.5 and 72, respectively, indicating a higher level compared to our results. This discrepancy can be explained by the fact that the concept of financial literacy first gained attention from researchers in the United Kingdom and the United States, where many educational programs have been implemented to improve financial literacy among the population. Most states in the United States have an approved chapter on financial literacy, and a coalition called JumpStart has taken on the task of developing and enhancing financial literacy. This coalition conducts a financial literacy test every two years and publishes the results [24]. Therefore, given the importance of financial literacy in today's modern world and its observed deficiency among the elderly population in Iran, it is necessary to devise a plan. This plan should include strategic planning and strict supervision for conducting financial literacy training courses. Relevant organizations and authorities, such as scientific societies and the Society of Accountants, should take the lead in this initiative for the benefit of the Iranian elderly.

Stewart *et al.* also report that many older adults possess very low health and financial literacy, which leaves them ill-equipped to make informed healthcare and financial decisions, rendering them

vulnerable to adverse health and financial outcomes [25].

There was a positive and significant correlation between financial literacy and total health literacy, as well as its dimensions. Thus, as the financial literacy of the elderly participants increases, their level of health literacy and its associated dimensions also show improvement. Consistent with this finding, James *et al.* [3] and Bennett *et al.* [4] in the United States have reported a positive and significant correlation between health literacy and financial literacy. Additionally, according to Ertaş & Kavas, there is a positive and significant correlation between health literacy and financial literacy [26]. Health literacy and financial literacy are two important dimensions of literacy [3, 4], and the findings of various studies indicate that there is a significant relationship between different dimensions of literacy [27, 28]. Therefore, the existence of a relationship between health literacy and financial literacy is not unexpected.

Considering that a low level of health literacy is a significant public health issue impacting various health aspects, such as health status, mortality rates, and the utilization of health and medical services, it becomes crucial to address this problem. Particularly among the elderly, a low level of health literacy often leads to poor performance in healthcare and health-promoting behaviors. Therefore, it is essential to leverage all available opportunities, resources, and facilities to enhance their health literacy. According to the findings of the current study, financial literacy can contribute to improving the health literacy of the elderly. Given the existence of a relationship between financial literacy and health literacy, it is clear that health literacy is a multifaceted and intricate concept influenced by various factors. As such, the task of enhancing health literacy in society should not fall solely on the health system. Instead, all sectors of society, including financial and economic systems, should participate in this endeavor. By playing their part and promoting financial literacy, these sectors can contribute significantly to improving overall health literacy.

In many developed countries, financial literacy has been promoted using various methods, such as the publication of educational books and the use of mass media, including educational websites and television programs [29]. For the effective implementation of financial literacy training programs among the elderly, significant innovations are needed. These innovations should involve cooperation between organizations and different sectors of society, such as scientific and educational institutions, welfare organizations, the central bank, insurance funds, retirement funds, and the Ministry of Health. Additionally, various social platforms, including workplaces, healthcare centers, and care centers for the elderly, should be utilized [29].

Due to the increasing importance of financial literacy in today's modern societies, the necessity for understanding and applying this concept, particularly among the elderly, has grown. This knowledge proves especially beneficial in areas such as health, quality of life, and well-being, which are considered the most crucial aspects of life.

Considering the existence of a significant relationship between financial literacy and health literacy, as well as some demographic variables of the studied elderly, the results of the present study can be used to prioritize target groups in interventions designed and implemented to improve financial literacy and health literacy. For example, the mean scores of health literacy and financial literacy among the elderly with poor and moderate economic status were significantly lower than those of the elderly with good and excellent economic status. Therefore, it is suggested to prioritize the elderly with low economic status when implementing educational programs related to the promotion of financial literacy and health literacy.

One of the strengths of the present study is that, due to the lack of research on the relationship between financial literacy and health literacy among the Iranian elderly, this study can serve as a foundation for future research. Among the limitations of the current study is that it was conducted cross-sectionally. Conducting studies over a longer period would provide a better opportunity to examine the causal relationships between the variables. Another limitation is related to the statistical population of the study, which consisted of the elderly in Urmia; there is a possibility that the elderly in other cities may exhibit different trends. As a result, generalizing the findings to all Iranian elderly should be done with caution. Given the importance of financial literacy in today's world, particularly considering its low levels among the elderly in Iran and the established positive correlation between financial literacy and health literacy, it is recommended to carefully plan and monitor training courses on financial literacy for the elderly in Urmia. This responsibility should be undertaken by relevant organizations and authorities.

## Conclusion

There are low levels of both financial literacy and health literacy among the elderly in Urmia, and financial literacy and health literacy are positively correlated.

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**Ethical Permissions:** All methods of this study were carried out in accordance with the Helsinki Declaration. Ethical approval for the study was obtained from the Research Ethics Committee of the vice-chancellor for research and technology at Urmia University of Medical Sciences (IR.UMSU.REC.1401.008). Informed consent was obtained from all individual participants. Participants were assured that their involvement was completely voluntary, that they could withdraw from the study at any time if they wished, and that their information would remain confidential with the researcher. Furthermore, the study results would only be reported in general terms. The questionnaire also did not include any identifying information such as names or surnames.

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