



Information-Seeking Behavior of the Elderly in the Health Area: A Case Study in Golestan Province

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Abstract

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Introduction: The information-seeking behavior of the elderly, the information needs of this group regarding health, and the problems and barriers to accessing this information are of great importance and play an influential role in the self-management process of the elderly. This study aims to investigate the health information-seeking behavior of the elderly in Golestan Province.

Methods: In this survey study, 239 elderly individuals from Golestan Province were included. The Medlock questionnaire was used for data collection. After translating and re-translating the questionnaire, its content, face validity, and reliability were examined. The study participants were selected using a convenience sampling method. Descriptive and inferential statistics were used for data analysis, including correlation and Poisson regression tests. All analyses were performed using SPSS 26 software at a significance level of 0.05.

Results: The results revealed that the most used and reliable sources by the elderly were “Direct contact with health professionals” (29.29%) and “Television” (19.75%). The highest information searches were in scientific care, nutrition and physical activities, specific disease symptoms and causes, prescribed medications, coping with a disease, side effects of treatment, disease prediction, and treatment methods. A high correlation was found between Trust in Friends/Acquaintances (0.656), Television (0.641), and Radio (0.632) as sources of health information. In contrast, a low correlation was observed between Trust in educational courses and lectures (0.324) and Books/Encyclopedias (0.274) for obtaining health information.

Conclusion: It is necessary to establish a direct communication infrastructure between health professionals and the public through expanding programs such as family physicians and developing evidence-based television programs with a knowledge translation approach. Additionally, future qualitative research is needed to delve into using innovative technologies and improve information-seeking behavior in older individuals.



Introduction

With the emergence and expansion of novel information and communication technologies and the increasing complexity of the nature of information in the present era, a greater need is required than ever before to understand the informational requirements and health information-seeking behaviors in order to find appropriate strategies for accessing and managing the necessary health information (1, 2). Health information-seeking behavior is perceived as a widespread method through which individuals obtain information about health, disease, health promotion, and threats to health (3). Health information-seeking behavior has multiple goals, such as understanding disease symptoms, assessing disease risks, finding treatment options, managing chronic conditions, and preparing for patient-physician communication (4). This method makes health information, health messages, and health services increasingly accessible via the Internet without time or location constraints (5).

Older communities face significant challenges in their healthcare sector due to the increasing prevalence of chronic diseases among the elderly and a sharp increase in demand for healthcare resources (6). The growing elderly population and their expectations for patient-centered services have increased the need to develop and use new information technologies (7). These technologies allow older individuals to access information about diseases, medications, treatments, or healthy living. However, previous studies have shown that barriers such as low trust, financial constraints, lack of Internet familiarity, and low health literacy exist among older adults accessing online health information (8). A study conducted by Hong et al. showed that using health information technology among older adults in the United States has been increasing from 2009 to 2018. Older adults with higher education, higher income, insurance coverage, and good health status significantly use health information technology more than other older adults. Therefore, healthcare providers need to be aware of the patterns of health information technology use among older adults. A simple inquiry about the experiences of older adults in using health information technology can be essential in guiding them toward proper health management (9).

On the other hand, the prevalence of health

problems in older adults is higher than in young people, and searching for and using health information through the Internet can be particularly useful for older adults. Access to electronic health information is vital for older adults who live in rural communities and are socially isolated. Older adults can use the Internet to help manage their health (9, 10). Although previous studies have shown that older adults need to catch up in using health information technology, it is believed that this age group shows resistance to using health information technology. Limited studies have also confirmed the increased prevalence of using health information technology among older adults in the past decade. Patterns of health information users may have changed due to the availability of online health information, and further research is needed to assess patient characteristics related to the use of health information technology. Additionally, a wide range of healthcare professionals also have a significant workload, so using health information technology is necessary for managing chronic diseases in this age group (11-14). Another study indicate that older adults increasingly use the Internet (15). These combined results indicate that online health information-seeking behavior in older adults needs to be sufficiently scrutinized.

Due to the estimation by the United Nations, the elderly population is increasing in terms of numbers and as a percentage of the total population. The global population aged 65 or older is predicted to increase from 10% in 2022 to 16% in 2050. Therefore, countries with aging populations, including Iran, need to take action in public healthcare and establish long-term care systems to adapt public programs to the growing proportion of elderly individuals (16). Additionally, awareness and understanding of how to access health information are crucial for addressing potential deficiencies in healthcare systems for the elderly. Evidence also confirms the increasing demand for more culturally and linguistically responsive disease prevention programs and health interventions (17).

Considering the recent utilization of information and communication technologies and home care, Iran is at the beginning of the path compared to other developing countries. On the one hand, the increasing trend of the aging population in the country and the level of demand for home care services and service diversity necessitates using



information and communication technologies (18).

Based on the 2016 General Population and Housing Census results, the elderly population in Iran was 9.3%, and in Golestan Province, 7.8% (19). the elderly in the health area and the limited knowledge in this area, this study aims to investigate the health information-seeking behavior of the elderly in Golestan Province. The purpose was to identify their information needs and information-seeking behavior and to take a small but effective step toward improving their lifestyle and treatment process.

Methods

The present study is of the survey type. The population under study was elderly in Golestan Province, and 239 were studied in 2021. The tool used was a questionnaire adapted from the research by Medlock et al. (20). The process of translating the questionnaire into Persian was done by two independent translators, and two other independent translators did its back-translation into English. Finally, after consultation, the final questionnaire was developed. The validity of the tool was examined using the content validity method. In this examination, the questionnaire was given to 11 experts, and the “necessity,” “relevance,” and “clarity” of the items and the overall component were assessed using I-CVI and S-CVI indices. Content Validity Index (CVI) was used to measure the validity of the questionnaire at two levels: I-CVI (item level) and S-CVI (scale level). This CVI index was proposed by Waltz & Bausell. To calculate CVI, experts are asked to determine the relevance of each item on a four-part scale (Not relevant, needs revision, Relevant but needs revision, and completely relevant). If the resulting value was less than 0.70, the component was rejected. It needs revision if it is between 0.70 and 0.79; if it is more significant than 0.79, it is acceptable (21, 22).

For the face validity assessment, a tool was provided to 15 elderly individuals, and by calculating the I-FVI and S-FVI indices, a decision was made regarding the “comprehensibility and understandability” of the items and components (23). Moreover, a questionnaire was distributed and examined among 24 individuals in two stages to assess the tool’s reliability. Then, using SPSS software, a reliability coefficient of 0.88 was obtained through Cronbach’s alpha. The sampling of study participants was done through convenience sampling. For this purpose,

the research team visited the homes of the elderly and parks and obtained information from the elderly who were willing to participate in the study through interviews. Notably, in this study, individuals aged sixty-five and above were considered elderly (24).

Descriptive statistics, including frequency (percentage), were used for analyzing the data. Mean and standard deviation were used for quantitative variables. To determine the status of the study sample in terms of “health information acquisition method,” “confidence in each health information acquisition method,” and “search results in each method,” the frequency of each option was presented in tables. For prioritizing “health information acquisition methods” and “confidence in each method,” a score of zero was assigned to the “None” option, and scores of 1, 2, and 3 were assigned to the options “Very low,” “Somewhat,” and “Very high,” respectively. In the “search results” table, a score of zero was assigned to the “Never” option, and scores of 1, 2, and 3 were assigned to the options “Rarely,” “Often,” and “Always,” respectively. Each item’s total scores were calculated based on the mentioned weighting method. The weight (usage/importance) of each item compared to other items was calculated by dividing the total scores of each item by the total scores of all items. In the end, to compare the “level of use of each health information acquisition method,” “level of confidence in each of these methods,” and “search results,” the obtained weights from the previous stage were analyzed using Poisson regression. The relationship between the “level of use of each of the methods for obtaining health information” and the “level of confidence in each of these methods” and “search results” was also examined by performing linear correlation analysis and calculating the Spearman correlation coefficient. Data analysis was performed using SPSS software version 26 at a significance level of 0.05.

Results

In this study, 239 elderly individuals participated, of which 55.23% (132) were men. The average age of under-study participants was 72.34 (± 11.69) years. In terms of education, most of the studied participants (65.69%) had elementary education. Only 42 individuals (17.95%) were employed. Regarding marital status, most participants (65.68%) were married. Other information is presented in Table 1.



Table 1. Demographic characteristics of the elderly population under study in Golestan Province

		Number	Percent
Gender	Female	107	44.77
	Male	132	55.23
Education	Elementary school	157	65.69
	High school diploma	43	17.99
	Middle school	25	10.46
	BA	9	3.77
	MA/MSc	5	2.09
Employment status	Housekeeper	71	30.34
	Employed	42	17.95
	Self-employed	63	26.92
	Retired	58	24.79
Marital status	Widow	60	25.42
	Married	155	65.68
	Single	15	6.36
	Divorced	6	2.54
Living status	Alone	54	23.89
	Nursing home	6	2.65
	With family	166	73.45
Assessment of health status	Bad	19	8.15
	Very good	22	9.44
	Good	71	30.47
	Very bad	6	2.58
	Relatively good	115	49.36

Table 2 presents the frequencies (percentages) related to the usage level of each provided resource. As observed, the highest percentage of usage (“Very high” option) belongs to “Contacting a health specialist” (29.29%), followed by “Television” and “Pharmacy.” The highest percentage indicating non-usage (“None” option) belongs to public libraries (71.91%), Books/Encyclopedias (62.34%), and Social media (52.99%). After weighing, it was observed that the top five sources with the highest usage were “Direct contact with a health specialist” (10%), “Pharmacy” (8%), “Television” (8%), “Friends/Acquaintances” (7%), and “Personal experience” (6%). The least essential sources based on scores were “General Magazines” (4%), “Training courses and lectures” (4%), “Other sources” (4%), “Books/Encyclopedias” (3%), and “Public libraries” (2%).

In comparing the methods of obtaining health information, it was observed that using methods such as “Direct contact with a health specialist,” “Pharmacy,” “Television,” and “Friends/

Acquaintances” significantly yielded more health information compared to the method of using brochures. On the other hand, using methods such as “General magazines,” “Educational courses and lectures,” “Books/Encyclopedias,” and “Other sources” significantly yielded less health information compared to the brochure method. Additionally, no statistically significant difference was found in using methods such as “Personal experience,” “Radio,” “Patients with similar diseases,” “Mosques/Religious groups,” “Internet,” “Newspapers,” “Social media,” “Specialized health journals,” and “Telephone counseling” compared to the brochure method (Table 2).

Table 2. The rate of using each health information acquisition method in the elderly of Golestan Province

	Using Rate				Score	P value	Usage ratio (%)	Usage status €
	None	Very low	Somewhat	Very high				
Direct contact with a health specialist	32(13.39)	45(18.83)	92(38.49)	70(29.29)	439	<0.001	10	More
Pharmacy	48(20.08)	61(25.52)	92(38.49)	38(15.9)	359	<0.001	8.2	More
Television	50(21.01)	79(33.19)	62(26.05)	47(19.75)	344	<0.001	7.8	More
Friends/ Acquaintances	67(28.51)	69(29.36)	65(27.66)	34(14.47)	301	0.008	6.8	More
Brochures	86(36.75)	74(31.62)	57(24.36)	17(7.26)	239	-	5.4	Comparison group
Personal experience	74(30.96)	80(33.47)	57(23.85)	28(11.72)	278	0.087	6.3	More
Radio	83(34.73)	78(32.64)	48(20.08)	30(12.55)	264	0.26	6	More
Patients with similar diseases	82(35.96)	77(33.77)	51(22.37)	18(7.89)	233	0.78	5.3	More
Mosque/Religious groups	106(44.73)	64(27)	48(20.25)	19(8.02)	217	0.3	4.9	More
Internet	113(48.92)	53(22.94)	43(18.61)	22(9.52)	205	0.11	4.7	More
Newspaper	114(47.9)	68(28.57)	32(13.45)	24(10.08)	204	0.097	4.6	More
Social media	124(52.99)	44(18.8)	41(17.52)	25(10.68)	201	0.07	4.6	More
Specialized healthjournals	116(48.54)	58(24.27)	52(21.76)	13(5.44)	201	0.07	4.6	More
Telephone counseling	116(48.54)	63(26.36)	43(17.99)	17(7.11)	200	0.06	4.5	More
General magazines	119(50.85)	60(25.64)	55(23.5)	0	170	0.001	3.9	Less
Training courses andlectures	139(58.16)	49(20.5)	35(14.64)	16(6.69)	167	<0.001	3.8	Less
Other sources	121(50.63)	82(34.31)	26(10.88)	10(4.18)	164	<0.001	3.7	Less
Books/ Encyclopedias	149(62.34)	65(27.2)	21(8.79)	4(1.67)	119	<0.001	2.7	Less
Public library	169(71.91)	46(19.57)	15(6.38)	5(2.13)	91	<0.001	2.1	Less

In assessing the level of confidence in each of the health information sources, as seen in Table 3, the highest proportion provided (23.58%) was for the option “Very High” for “Direct contact with a health specialist,” followed by the options “Friends/ Acquaintances” (15.19%) and “Television” (12.97%). On the other hand, the highest proportion for the option “None” was related to “Public library” (58.58%), “Training courses and lectures” (57.32%), and “Books/Encyclopedias” (55.08%). After weighing, it was observed that the top five sources with the highest importance were “Direct contact with a health specialist” (9.4%), “Pharmacy” (7.7%), “Television” (7.3%), “Friends/Acquaintances” (6.6%), and “Radio”

(6.6%). In contrast, the sources with the lowest confidence weight were “Mosque/Religious groups” (4%), “Other sources” (3.9%), “Books/Encyclopedias” (3.7%), “Training courses and lectures” (3.6%), and “Public library” (3.5%).

In comparing the confidence level in each method used to obtain health information, all methods were compared with “Brochures.” As can be seen in Table 3, the level of confidence in the methods of “Direct contact with health experts,” “Pharmacy,” “Television,” “Friends/ Acquaintances,” “Radio,” “Telephone counseling,” and “Personal experience” was significantly higher than the “Brochure” method. The level of confidence in the methods of “Books/



Encyclopedias,” “Educational courses and lectures,” “Public library,” and “Other resources” was significantly lower than the “Brochure” method. No significant difference was observed between the levels of confidence in the methods of “Patients with similar diseases,” “Specialized health journals,” “Newspapers,” “Social media,” “Internet,” “General magazines,” and “Mosque/Religious groups” compared to the “Brochure” method (Table 3).

Table 3. Confidence level in each method of obtaining health information in the elderly in Golestan Province

	Confidence level				Score	Confidence ratio (%)	P value	Confidence level £
	None	Very low	Somewhat	Very high				
Direct contact with a health specialist	36(15.06)	59(24.69)	87(36.4)	57(23.85)	404	9.4	<0.001	More
Pharmacy	43(17.99)	76(31.8)	105(43.93)	15(6.28)	331	7.7	<0.001	More
Television	42(17.57)	112(46.86)	54(22.59)	31(12.97)	313	7.3	<0.001	More
Friends/ Acquaintances	81(34.18)	64(27)	56(23.63)	36(15.19)	284	6.6	<0.001	More
Radio	69(29.49)	83(35.47)	55(23.5)	27(11.54)	274	6.4	0.002	More
Telephone counseling	79(33.05)	90(37.66)	53(22.18)	17(7.11)	247	5.8	0.025	More
Personal experience	80(33.9)	77(32.63)	60(25.42)	19(8.05)	254	5.9	0.049	More
Brochures	98(41)	79(33.05)	59(24.69)	3(1.26)	206	4.8	-	Comparison group
Patients with similar diseases	72(30.38)	97(40.93)	53(22.36)	15(6.33)	248	5.8	0.054	Equal
Specialized health journals	104(43.88)	85(35.86)	41(17.3)	7(2.95)	188	4.4	0.365	Equal
Newspaper	113(48.5)	65(27.9)	42(18.03)	13(5.58)	188	4.4	0.365	Equal
Social media	125(52.3)	57(23.85)	40(16.74)	17(7.11)	188	4.4	0.365	Equal
Internet	127(53.81)	54(22.88)	35(14.83)	20(8.47)	184	4.3	0.266	Equal
General magazines	104(45.61)	79(34.65)	38(16.67)	7(3.07)	176	4.1	0.125	Equal
Mosque/Religious groups	126(54.31)	53(22.84)	40(17.24)	13(5.6)	172	4	0.081	Equal
Other sources	122(51.05)	77(32.22)	31(12.97)	9(3.77)	166	3.9	0.038	Less
Books/ Encyclopedias	130(55.08)	60(25.42)	41(17.37)	5(2.12)	157	3.7	0.010	Less
Training courses and lectures	137(57.32)	59(24.69)	34(14.23)	9(3.77)	154	3.6	0.006	Less
Training courses and lectures	140(58.58)	56(23.43)	35(14.64)	8(3.35)	150	3.5	0.003	Less
Public library	126(54.31)	53(22.84)	40(17.24)	13(5.6)	172	4	0.081	Equal

£ Confidence level compared to confidence in the brochure

As seen in Table 4, the main goal and motivation for seeking participants' health information are finding information after visiting a doctor and deciding on the need to see a doctor through a professional health specialist.

Table 4. Purpose and motivation for searching health information for the elderly in Golestan Province in the past year

	No	Yes, through			
		Professional health specialist	Other people	Internet	Written resources
Deciding on the need to see a doctor	154(64.44)	75(31.38)	7(2.93)	0(0)	3(1.26)
Making an appointment with a doctor	140(58.58)	65(27.2)	30(12.55)	4(1.67)	0(0)
Finding information after seeing a doctor	108(45.19)	76(31.8)	46(19.25)	4(1.67)	5(2.09)

In response to the question "If you need information, which option would you choose?" as seen in Table 5, 76.62% of participants stated that they "Ask a health specialist." In contrast, only 3.9% reported "Searching the internet" (Table 5).

Table 5. Actions are taken when needing information about the elderly in Golestan Province

	I do not search for health information	I ask a health specialist	I search on the Internet	I search using sources other than the Internet (journals, friends, etc.)
If you need information, which option would you choose?	26(11.26)	177(76.62)	9(3.9)	19(8.23)

The results of the actions taken when needing information indicated that most participants only need a little health information and expect the specialist to provide only some of the information. They also find it easy to find information in Persian.

As seen in Table 6, 70.04% agreed with the statement

"I often want more health information," 81.01% strongly agreed with the statement "I expect the specialist to provide all the information," and 53.59% strongly disagreed with the statement "Finding information in Persian is difficult."

Table 6. Results of actions taken in case of need for information in the elderly in Golestan Province

	Strongly agree	Agree	Disagree	Strongly disagree
I often want more health information	20(8.44)	51(21.52)	0(0)	166(70.04)
I expect the specialist to provide all the information	13(5.49)	32(13.5)	0(0)	192(81.01)
Finding information in Persian is difficult	26(10.97)	84(35.44)	0(0)	127(53.59)

In examining the reasons for seeking information, it was observed that 42.62% to 56.79% of participants gave negative answers to all eight mentioned items. In cases where the respondents answered yes, most individuals mentioned "Healthcare professional" as

the method of obtaining information in all eight cases. Except for "Disease prediction" and "Prescribed medications," the Internet had the most negligible share in finding information in the remaining cases (Table 7).

Table 7. Purpose and motivation for searching health information for the elderly in Golestan Province in the past year

	No	Yes, through			
		Professional health specialist	Other people	Internet	Written resources
Specific symptoms of the disease and its causes	124(54.15)	71(31)	29(12.66)	2(0.87)	3(1.31)
Disease prediction	103(43.1)	93(38.91)	31(12.97)	10(4.18)	2(0.84)
Treatment methods	101(42.62)	85(35.86)	32(13.5)	9(3.8)	10(4.2)

Table 7. Purpose and motivation for ... (continued)

	No	Yes, through			
		Professional health specialist	Other people	Internet	Written resources
Prescribed medications	115(49.15)	89(38.03)	14(5.98)	8(3.42)	8(3.42)
Treatment side effects	102(43.04)	87(36.71)	27(11.39)	6(2.53)	15(6.33)
Dealing with an illness	107(45.34)	87(36.86)	20(8.47)	8(3.39)	14(5.93)
Scientific care information	135(56.49)	49(20.5)	42(17.57)	0(0)	13(5.44)
Nutrition/physical activities	134(56.07)	58(24.27)	32(13.39)	5(2.09)	10(4.18)

In examining the search results regarding health information, it was observed that 56.9% of participants indicated that in most cases, the search results led to “Feeling anxious about the disease.” Moreover, 54.81% of participants have indicated that the search results in most cases led to gaining “More knowledge and understanding.” 49.78% of the participants have also indicated that in most cases, the outcome of their search led to “Having a conversation with a doctor about the obtained information” for obtaining health information (Table 8).

The comparison of search results conducted by the elderly is also presented in Table 8. As observed, the

ratio of times that the search results led to “More knowledge and understanding,” “Offering an inquiry about diagnosis,” and “Feeling anxious about the disease” was significantly higher than the ratio of times that led to “Tending to change dietary habits.” However, no significant difference was observed in the ratio of times that the search results led to “Reassurance or relief,” “Having a conversation with a doctor about the obtained information,” “Deciding not to visit a doctor,” “Concern and stress,” “Deciding to visit a doctor,” and “Changing medication without consulting a specialist” compared to the ratio of times that led to “Desire to change dietary habits” (Table 8).

Table 8. Results of health information searches in the elderly population of Golestan Province

	Never	Once	Rarely	Often	Score	Search results ratio (%)	p value	£ Confidence level
More knowledge and understanding	13(5.44)	25(10.46)	70(29.29)	131(54.81)	558	11.0	0.005	More
Offering an inquiry about the diagnosis	11(4.6)	25(10.46)	94(39.33)	109(45.61)	540	10.6	0.02	More
Feeling anxious about the disease	28(11.72)	21(8.79)	54(22.59)	136(56.9)	537	10.6	0.03	More
Reassurance or relief	23(9.62)	27(11.3)	75(31.38)	114(47.7)	519	10.2	0.10	Equal
Having a conversation with a doctor about the obtained information	20(8.66)	29(12.55)	67(29)	115(49.78)	508	10.0	0.19	Equal
Deciding not to visit a doctor	18(7.59)	33(13.92)	88(37.13)	98(41.35)	503	9.9	0.25	Equal
Concern and stress	29(12.24)	28(11.81)	66(27.85)	114(48.1)	502	9.9	0.26	Equal
Deciding to visit a doctor	22(9.21)	51(21.34)	67(28.03)	99(41.42)	482	9.5	0.63	Equal
Changing medication without consulting a specialist	40(17.09)	19(8.12)	75(32.05)	100(42.74)	469	9.2	0.95	Equal
Tending to change dietary habits	30(12.71)	33(13.98)	85(36.02)	88(37.29)	467	9.2	-	Comparison group

Discussion

The present study aims to investigate the information-seeking behavior of elderly individuals in Golestan Province in the field of health in order to find an appropriate method for accessing and retrieving information related to their health and disease management and care. The conducted analyses indicate that this group's most used and trusted sources are direct contact with health specialists (29.29%) and Television (19.75%). Additionally, 76.62% of the target group stated, "Ask a health specialist." In contrast, only 3.9% of the study participants reported "Searching the Internet." Furthermore, 29.96% of individuals believe they need more health information, 18.99% expect the specialist physician to provide all the information, and 46.41% find it challenging to find information in Persian. In order, the most searched topics are scientific care information, nutrition and physical activities, specific disease symptoms and causes, prescribed medications, coping with a disease, side effects of treatment, disease prediction, and treatment methods. The consequences of information-seeking in most cases lead to "Feeling anxious about the disease" (56.9%), "Increased knowledge and understanding" (54.81%), and "Discussing the found information with a physician" (49.78%) in the target group. A high correlation was found between trust in Friends/Acquaintances (0.656), Television (0.641), and Radio (0.632), and a low correlation between Trust in training courses and lectures (0.324) and Books/Encyclopedias (0.274) for obtaining health information. Furthermore, weak and inverse correlations between using different sources of information and search results are observed.

Zhao et al.'s study in 2022 revealed that the highest information searches in the elderly are related to certain diseases, drugs and treatments, nutrition and exercise, medical resources, disease symptoms, health promotion, support groups and individual counseling, health insurance information, and health news or policies (15). However, in the present study, the highest searches are in scientific care. Interestingly, this study also confirms the high searches of the elderly in nutrition, physical activities, special disease symptoms, and medications. In addition, it has been shown that older adults face three barriers, i.e., individual, social, and information and communication technology, in seeking online health information. Therefore, creating intervention programs based on workshops and support for

older adults' search for online health information is essential.

With developing information and communication technology, online health information search scenarios for the elderly are changing. Some studies have identified access to Internet-based health information, mainly through mobile phones, as an effective method for meeting the health information needs of the elderly. These innovative methods not only facilitate daily health monitoring and self-tracking but also improve decision-making based on online health information among the elderly (25, 26). In the present study, "Telephone counseling" was considered instead of mobile phones for obtaining health information for the elderly. 51.46% of the elderly use "Telephone counseling" to obtain appropriate health information, while 48.54% do not.

The results of the study by Isebe et al. in 2022 showed that friends and family, health professionals, radio, and Television are the primary sources of information for older adults. Additionally, the information needs of older adults mainly include health-related information, COVID-19 information, and information related to financial matters, among others. Therefore, the goal of information seeking is to make better decisions for life. The obstacles to information seeking include reduced physical abilities due to aging, lack of patience from friends and family, insufficient financial resources, lack of awareness of information sources, lack of information literacy/search techniques, and the like (27). Additionally, in the present study, contacting professionals, Television, Pharmacy, friends and acquaintances, and radio were among the most commonly used sources for older adults. Most older adults' goals in seeking information are finding information after seeing a doctor, making an appointment, and deciding about the need to see a doctor.

This study has faced limitations, including the assumption that participants provided honest responses. However, the presentation of socially acceptable responses cannot be considered a threat to the internal validity of the findings. In addition, due to the age of individuals, there sometimes needed to be more patience in responding to specific questions, attempting to be addressed by patiently obtaining responses from participants in multiple stages.

Proposedly, considering the increasing trend of internet and social media usage, the government should support information literacy programs for



the elderly to increase their information search and utilization to meet their informational needs. Furthermore, health information should be culturally appropriate for better service delivery to racial/ethnic minority populations. Additionally, future qualitative research is needed to deepen our understanding of using new technologies and improving information behavior in older adults.

Conclusion

Since the best sources of information for the elderly to obtain information are direct contact with a specialist doctor and watching Television, and when they have more anxiety about the disease, they also search the Internet for more information about the disease, it is necessary to provide the infrastructure for direct communication between health experts and the public through the expansion of programs such as family doctors and the prediction of evidence-based television programs with a knowledge translation approach. In addition, future qualitative research is needed to delve into using new technologies and improve information-seeking behavior in older adults. Furthermore, social media can play a supportive role in managing older adults' health-related needs and concerns due to their cost-effectiveness and facilitation of information retrieval.

Most older adults cannot use new technologies to monitor and manage their health. Therefore, the government must support health literacy programs for this group and make the necessary information available through various media. Paying attention

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to the consultative, guiding, and educational role of librarians and information specialists in medical information, as well as public libraries and university libraries of medical sciences in the country, is also of great importance in making health resources accessible.

Declarations

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Conflicts of Interests

The authors declared no conflict of interest.

Ethical statement

The Ethics Committee of Golestan University of Medical Sciences approved this study's protocol with code: IR.GOUMS.REC.1399.389.

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Authors' contributions

All the authors contributed to the preparation of the final manuscript. M.M. has contributed the most in guiding the project and preparing this article.



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