



Health Information-Seeking Behavior of the Faculty of Nursing and Pre-Hospital Emergencies Students in Abhar, Iran

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Abstract

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Introduction: Health information is a basis for connecting societies with health and treatment systems, and people with a correct understanding of diseases can manage their health conditions. The present study aims to investigate the health information-seeking behavior of the Faculty of Nursing and Pre-Hospital Emergencies students in Abhar, Iran.

Methods: The present research used a descriptive survey method and a quantitative approach. Of all Faculty of Nursing and Pre-Hospital Emergencies students in Abhar, Iran, 450 were chosen for the study. Using Morgan's table, 208 people were chosen as the statistical population. A questionnaire was distributed to all students to collect data, and finally, 210 questionnaires were completed and collected. The collected information was analyzed using SPSS version 2021 and Excel 2016 software.

Results: The findings showed that 95.2% of the students have a bachelor's degree. The smartphone is primarily used to search and access health information. Among printed sources, medical books were used more than other sources. Among the most important information channels for obtaining health information from the student's point of view are TV/radio, the internet, social networks, physicians, colleagues, and universities or hospitals. Influential factors in evaluating health information acquisition channels include fresh and innovative content, up-to-date information, neutrality and lack of bias, comprehensibility of information content, mentioning scientific sources used, expertise and experience, and fame of the author of the content, the breadth and scope of the information, mentioning the publication date, considering the audience, the free access to the information, and the author's affiliation with a well-known and reputable institution. In addition, uncertainty about the accuracy of information on websites and social networks and the large volume of information were among the most critical obstacles to searching for health information.

Conclusion: Students use print sources and health information acquisition channels (digital media, individuals, and organizations) to meet their needs to provide health information, and in this way, they face obstacles and problems. Therefore, paying attention to the quality, validation, trust, and up-to-dateness of information can help students find the right way to seek information.

Introduction

Information has played a significant role in human societies since the beginning of human life. Searching for information affects people's decision-making. People will not be able to progress and advance their daily goals without having the

information they need. One of the information needs of people in their daily lives is health information, which has become one of the main concerns of many societies and has led to research in health information systems in the present era (1). Health



information is the basis for connecting societies with health and treatment systems; people with a correct understanding of diseases can manage their health conditions (2).

Health information for personal healthcare is crucial and is increasing due to financial limitations, dissatisfaction with doctor's visits, and more interest in self-care (3). Self-care is considered one of the influential factors in accelerating the healing process of diseases and improving the patient's quality of life (4). Providing sufficient information significantly impacts prevention, reducing stress, distress, and uncertainty, gaining control, and promoting self-care (5). However, the method of obtaining and using information is not the same for everyone, and people have different behaviors concerning health information. Health information-seeking behavior shows how a person searches, finds, and uses information related to diseases, all health-threatening factors, and activities related to health promotion (6). Correct health information-seeking behavior can lead to the improvement of the process of treatment or prevention of diseases (7).

After the COVID-19 pandemic, it became clear that the world's health systems face many challenges, including infectious diseases. According to statistics, about 457,000 people in the world have died due to infectious diseases (8). The high death rate of infectious diseases has caused widespread fear and anxiety for people all over the world (9). In 2020, the World Health Organization (WHO) stated that the best way to prevent and slow down the transmission of diseases is to be aware of the type of disease. During that time, people looked for more information to relieve anxiety and develop the ability to understand and interpret that information (10-11).

Considering that academic societies can play a decisive role in improving health and infrastructure, it seems that attention and identification of health information acquisition channels are practical factors in evaluating them. Obstacles and problems of students in searching for health information are of great importance to deal with. Under the influence of different conditions, students who study at the university and seek to gain knowledge can show

different health information-seeking behaviors. Additionally, obtaining reliable information related to information needs and ensuring the accuracy of information in medical sciences that deal with patients is of great importance (12-13).

The multitude of research studies on health information-seeking behavior proves that this issue is always significant for researchers. Various studies have investigated the health information-seeking behavior of different groups (14-26). However, the investigation of the information-seeking behavior of students of the faculty of nursing and pre-hospital emergencies in Abhar, Iran, has not been researched.

Due to the importance of health information-seeking behavior in the health and treatment system of society and prevention of diseases, preventive measures should be taken by the authorities and individuals to avoid contracting infectious diseases and improve the level of public health in society. Examining the health information-seeking behavior of the nursing and pre-hospital Emergencies student can provide solutions for providing optimal health information services in the field of diseases to planners, managers, and trustees. Therefore, by knowing students' information-seeking behavior, officials and administrators can find the fastest way to inform and educate students, which will lead to prevention, timely diagnosis of diseases, and help in the treatment process. Therefore, the fact that nursing and pre-hospital emergency students deal with different patients in the university and hospital environments through an internship insists on having sufficient health information-seeking behavior to provide patients with the necessary health services. Therefore, the present study aims to investigate the health information-seeking behavior of the Faculty of Nursing and Pre-Hospital Emergencies students in Abhar, Iran. Furthermore, it intends to provide the necessary answers to the following questions:

1. What types of printed resources are used by the Faculty of Nursing and Pre-Hospital Emergencies students in Abhar?
2. What are the access channels to the required information sources for Abhar Faculty of Nursing and Pre-Hospital Emergencies students?

3. What are the influential factors in evaluating the channels of obtaining health information by the Faculty of Nursing and Pre-Hospital Emergencies students in Abhar?

4. What obstacles do Abhar Faculty of Nursing and Pre-Hospital Emergencies students face in searching for health information?

Methods

The present research used a descriptive survey method and a quantitative approach to examine the perspective of the target community. The study's statistical population is all students of the Faculty of Nursing and Pre-Hospital Emergencies in Abhar, Iran, including 450 people, and the research sample was 208 people using the Krejcie & Morgan table. The Mehr 1401 questionnaire was distributed to all students, and finally, 210 questionnaires were completed and collected. In order to collect data, the health information-seeking behavior questionnaire of Esmailzadeh et al. was used (14). The items related to the research objectives of the questionnaire consisted of two parts: demographic information as the first part and behavioral questions as the second part. Health information search included medical

and health information search sources, influential factors in evaluating health information acquisition channels, and barriers to students' access to health information.

The questionnaire questions were based on a 5-point Likert scale. A score of 1 indicates the least importance of the relevant question, and a score of 5 means the highest importance. Therefore, number three was chosen as the theoretical median of the answers. The average opinions of the respondents were compared using a one-sample t-test. If the score of the considered criterion is more than three, it can be said that the criterion is above the average level and at a desirable level. All collected information was analyzed with SPSS version 2021 and Excel 2016 software.

In this research, the content validity method was used for the validity test, and the opinions of professors and experts confirmed the questionnaire. Cronbach's alpha was used to determine the reliability of the research questionnaire, and the obtained alpha coefficient was calculated as 0.85, indicating high reliability.

Results

Table 1. Demographics information of respondents (marital status, gender, age, level of education, and monthly income)

		Frequency	Percent
Gender	Male	90	42.9
	Female	120	57.1
Education level	Associate's degree	10	4.8
	Bachelor's degree	200	95.2
Monthly income	Without income	119	56.7
	1-2 Million	29	13.8
	3-5 Million	22	10.5
	5 Million >	40	19.0
Place of residence	Village	27	12.9
	City	183	87.1
	Total	210	100.0

The demographic information of the study is shown in Table 1. According to Table 1, most of the research participants (57.1%) were women. 95.2% of the participants have a bachelor's

degree, and 4.8% have an associate's degree. In addition, more than half (56.7%) of the participants have no monthly income, and 87.1% live in the city.

Table 2. Priority of using search tools and access to health information by the Faculty of Nursing and Pre-Hospital Emergencies students

Priority	Laptop		PC		Smartphone		Tablet	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	99	47.1%	7	3.3%	100	47.6%	4	1.9%
2	59	28.1%	113	53.8%	22	10.5%	16	7.6%
3	40	19.0%	67	31.9%	88	41.9%	15	7.1%
4	12	5.7%	23	11.0%	0	0.0%	175	83.3%

Table 2 demonstrate that 47.6% used smartphones as the primary means of searching and accessing health information, and 53.8% used desktop

computers as the second priority. In addition, 41.9% used smartphones as their third priority. In the fourth priority (83.3%), they used a tablet.

Types of printed resources used by the Faculty of Nursing and Pre-Hospital Emergencies students

Table 3. Various printed resources used by students

	N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
Medical books	210	1.00	5.00	3.4238	1.18862	5.167	0.000
Newspapers	210	1.00	5.00	1.9190	1.01100	-15.494	0.000
Journals	210	1.00	5.00	2.3095	1.18782	-8.424	0.000
Educational brochure and catalog	210	1.00	5.00	3.0190	1.14064	0.242	0.809

Table 3 shows that students use medical books, newspapers, journals, and educational brochures and catalogs as printed resources. Among published sources, medical books were used more frequently by students. In other words, it can be said that using medical books in the studied community is more frequent than the average level ($p\text{-value} < 0.05$).

However, using educational brochures and catalogs to receive medical information from students was not statistically favorable ($p\text{-value} > 0.05$) despite being higher than the average level of 3. Furthermore, students' rate of using newspapers and journals to receive medical information was unfavorable ($p\text{-value} < 0.05$).

Channels for obtaining health information for the Faculty of Nursing and Pre-Hospital Emergencies students



Table 4. Channels of health information used by students

		N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
Digital media	TV / Radio	210	1.00	5.00	3.5619	1.07538	7.572	0.000
	Internet (medical websites and blogs)	207	2.00	5.00	4.3092	0.88189	21.358	0.000
	Social media (Telegram, Instagram, etc)	210	1.00	5.00	3.9095	1.11381	11.833	0.000
People	Physicians	210	1.00	5.00	3.3333	1.14638	4.214	0.000
	Colleagues	210	1.00	5.00	3.3667	1.11271	4.775	0.000
	Family members, friends, and neighbors	210	1.00	5.00	2.8952	1.09740	-1.383	0.168
	Other patients	210	1.00	5.00	3.0952	1.24911	1.105	0.270
Organizations	Library	210	1.00	5.00	3.1333	1.18254	1.634	0.104
	Charities	210	1.00	5.00	1.8048	0.99037	-17.489	0.000
	University or hospital	210	1.00	5.00	3.7524	1.10917	9.830	0.000
	Private counseling centers	210	1.00	5.00	2.4381	1.21729	-6.689	0.000

Table 4 illustrates that students use different channels to obtain health information. Among the channels for obtaining health information are TV/radio, the internet, social networks, physicians, colleagues, and universities or hospitals, which are used more frequently from the students' point of view. In other words, it can

be said that the using the aforementioned channels has been measured above the average level ($p\text{-value} < 0.05$). However, students' using other patient and library components for receiving medical information was not statistically favorable ($p\text{-value} > 0.05$) despite being higher than the average level of 3.

Influential factors in evaluating health information acquisition channels by the Faculty of Nursing and Pre-Hospital Emergencies students

Table 5. Influential factors in evaluating health information acquisition channels by students

Effective factors in evaluating health information acquisition channels	N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
Fresh and innovative content	210	2.00	5.00	4.4190	0.73571	27.951	0.000
Up-to-date information	210	2.00	5.00	4.3095	0.91474	20.746	0.000
Neutrality and lack of bias	210	1.00	5.00	4.2905	0.95667	19.548	0.000
Comprehensibility of information content	210	2.00	5.00	4.1762	0.80215	21.249	0.000
Mentioning scientific sources used	210	1.00	5.00	4.0857	1.08150	14.548	0.000



Table 5. Influential factors in evaluating health ... (continued)

Effective factors in evaluating health information acquisition channels	N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
Expertise, experience, and fame of the author of the article	210	1.00	5.00	4.0524	1.01761	14.987	0.000
The breadth and scope of information	210	1.00	5.00	3.8524	1.04085	11.867	0.000
Mentioning publication date	210	1.00	5.00	3.7476	1.20132	9.018	0.000
Considering the audience	210	1.00	5.00	3.7000	1.26055	8.047	0.000
Free access to information	210	1.00	5.00	3.6667	1.13801	8.489	0.000
The author's affiliation with a well-known and reputable institution	210	1.00	5.00	3.4048	1.26149	4.65	0.000
Mentioning the author's phone number and postal address	210	1.00	5.00	2.8667	1.23789	-1.561	0.120
A friend's recommendation to use a type of information	210	1.00	5.00	2.7619	1.21019	-2.851	0.005

Table 5 shows the influential factors in evaluating health information acquisition channels from the student's perspective. This table's findings reveal that fresh and innovative content, up-to-date information, neutrality and lack of bias, comprehensibility of information content, mentioning scientific sources used, expertise, experience, and fame of the author, the breadth and scope of information, mentioning

publication date, considering the audience, the free access to information, and the affiliation of the author to a well-known and reputable institution has been measured above the average level while mentioning telephone number and postal address of the author ($p\text{-value} > 0/05$) and a friend's recommendation to use a type of information ($p\text{-value} < 0/05$) are below the average level).

Obstacles of the Faculty of Nursing and Pre-Hospital Emergencies students in Abhar in searching for health information

Table 6. Obstacles and problems students face in searching for health information

Obstacles to seeking health information	N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
Uncertainty about the accuracy of website information	210	1.00	5.00	3.6476	1.18589	7.914	0.000
Uncertainty about the accuracy of information on social networks	210	1.00	5.00	3.5238	1.04075	7.294	0.000
The large volume of information	210	1.00	5.00	3.2333	1.15656	2.924	0.004
Being unfamiliar with information evaluation methods	210	1.00	5.00	3.0857	1.19900	1.036	0.301
Lack of time	210	1.00	5.00	3.0381	1.24450	0.444	0.658
Absence/lack of up-to-date and high-quality resources in libraries	210	1.00	5.00	2.9238	1.12131	-0.905	0.366
Unfamiliarity with English	210	1.00	5.00	2.9238	1.21942	-0.985	0.326
Non-responsiveness of the treatment staff	210	1.00	5.00	2.8190	1.05160	-2.494	0.013
Lack of access to information sources	210	1.00	5.00	2.8048	1.10023	-2.572	0.011

Table 6. Obstacles and problems students face in ... (continued)

Obstacles to seeking health information	N	Minimum	Maximum	Mean	Std. Deviation	T-test statistics	P-value
High costs of access to information resources	210	1.00	5.00	2.6762	1.30142	-3.606	0.000
Lack of access to libraries	210	1.00	5.00	2.6429	1.33451	-3.878	0.000
Lack of access to the internet	210	1.00	5.00	2.5810	1.38537	-4.383	0.000
Unfamiliarity with medical terms	210	1.00	5.00	2.5810	1.01925	-5.958	0.000
Lack of mastery in searching for information on the Internet	210	1.00	5.00	2.3714	1.23162	-7.396	0.658
Inappropriate physical conditions	210	1.00	5.00	2.1524	1.29616	-9.477	0.000

Since obstacles to searching for health information are negative, the elements that have obtained a higher average are more critical obstacles to the students. According to the findings of Table 6, uncertainty about the accuracy of information on websites, uncertainty about the accuracy of information on social networks, and the large volume of information are among the most critical obstacles to searching for health information (p -value <0.05).

In addition, non-responsiveness of the treatment staff, lack of access to information resources, high costs of access to information resources, lack of access to the library, lack of access to the Internet, unfamiliarity with medical terms, lack of mastery in searching for information on the internet, and inappropriate physical condition with a low average are less importance among the barriers to seeking health information (p -value <0.05).

Discussion

This study aims to investigate the health information-seeking behavior of nursing and pre-hospital emergency students. Since many studies have addressed this issue, the difference between this study and previous studies in the research community is its research population. The research findings showed that medical books are the most important printed sources students use. Some studies investigating students' health information-seeking behavior in COVID-19 found that the internet, social networks, and online tools are among the most important sources of health information search (16-17,19). A study on the information-seeking behavior

of Danish university students found that students with high health literacy search for their information through search engines and official websites (23). In addition, research investigating the online information-seeking behavior of diabetic patients in Saudi Arabia revealed that TV is one of the most important channels for obtaining health information (15). Therefore, this research is inconsistent with similar research. Medical books seem more important for nursing students than other sources, and students are more inclined to use this type of information media. Undeniably, the availability of medical books compared to other printed resources in the faculty library can significantly impact the results. In this context, university libraries should prepare authentic and up-to-date books.

Furthermore, the findings showed that the most important information channels for students to receive health information, in order of priority, include the internet, social networks, university or hospital, TV, colleagues, physicians, libraries, other patients, family members, and neighbors, private counseling centers and charities. The results of this research confirm the findings of Nafis & Khan's research because their research indicates that the most reliable channels for obtaining information for the people of India during the COVID-19 era are news websites, websites dedicated to the COVID-19 and medical staff (22). Additionally, a study examining cancer patients' needs and sources of information seeking found that the physician and the treatment staff were among the most important channels for patients to access information (14).



Since the students of the nursing school work in the hospital and college environment and are considered part of the treatment staff, after the internet and social networks, they have more contact with the medical staff, medical librarians, and patients with diseases. Therefore, their channels of obtaining health information seem somewhat different from other sections of society. In addition, because of dealing with patients, doctors, and medical staff can be reliable channels for obtaining health information.

As evident in the research results, fresh and innovative content, up-to-date information, impartiality, and lack of bias are effective factors in evaluating health information acquisition channels, and the recommendation of a friend had the least impact on this evaluation. In this regard, the research results based on the quality of information on COVID-19 websites showed that fresh and innovative content and up-to-date information were among the quality criteria of these websites (18). A study found that people look for sources that have up-to-date information to obtain health information (19). On the other hand, a study revealed that the validity and accuracy of information are among the most important factors that can reassure health information seekers because impartiality and lack of bias are the main requirements for the validity or accuracy of information (22). Another study stated that the lack of current information is related to online information searches and can affect information retrieval (24). Research results based on the investigation of the information-seeking behavior of students in Bangladesh showed that bias in the dissemination of information has caused the creation of false information (25). Another study claimed that having bias creates information with a negative impact. Therefore, users do not welcome this information (26). Consequently, users are looking for sources that publish new and updated content, so it is necessary to provide the most reliable and latest information to users.

On the other hand, the results of this research showed that uncertainty about the accuracy of the information on websites, uncertainty about the accuracy of the information on social networks,

and a large amount of information are the most important obstacles to searching for health information and inappropriate physical conditions have the least impact. The findings of the research of Nafis & Khan (22), Bak et al. (23), and Tonmoy & Anwarul Islam (25) are consistent with the findings of this research because their research showed the accuracy of the information, the quality and reliability of the information, the uncertainty of the accuracy of the information, and the availability of incorrect information are barriers to seeking health information. Most students seem to have problems searching for information from different sources. In many cases, the uncertainty of the accuracy of information on websites and social networks and the large amount of information can be considered obstacles to obtaining information.

Conclusion

Since students face many questions about answering their needs and providing health information about diseases, they use sources and channels to obtain health information. In this way, they face obstacles and problems accessing information. Therefore, paying attention to the issues of quality, validation, trust, and up-to-date information can help students find information correctly. In this regard, hospital libraries and medical librarians play an influential role in identifying and providing reliable, quality, and up-to-date sources to make information accessible and access dedicated channels, and they can take necessary measures to teach and increase students' health literacy.

Declaration

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Conflicts of Interests

The authors declare no conflict of interests.

Ethical Statement

Researchers have complied with all ethical requirements throughout research. data are available and will be provided if anyone needs them.



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Authors' contributions

Hamed Nasibi-Sis contributed to this study by leading the research team, framing research

objectives, and revising the manuscript. Zeynab Siami contributed to this study by framing the methodology and revising the manuscript. Hamed Nasibi-Sis and Zeynab Siami contributed to this study by carrying out literature review and data collection and writing the initial version of paper jointly.

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