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Evaluation of Health Literacy in Turkey in Line with Scientific Studies*

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Abstract

The aim of this study is to evaluate health literacy in Turkey in line with scientific studies. In this study, qualitative research model and document analysis technique were used. The data of the study were analyzed by descriptive content analysis, one of the types of content analysis. The problem of the study was defined as “What is the general trend of scientific studies on health literacy in Turkey?”. The findings of the research were illustrated in accordance with the determined purpose and given with tables and comments. In line with the determined purpose; it was stated that the years with the highest number of studies were 2019, 2022 and 2023 with three studies each, 6 master's and 5 phd studies were prepared according to thesis types, studies were prepared to determine the health literacy levels of teachers and university students according to the subject distribution, the universities with the highest number of studies were Ankara and Gazi universities, quantitative research method was used more among the research methods, studies were conducted with undergraduate and associate degree students at most, and the most used data collection tools were scales, T-tests and descriptive statistics. Accordingly, by evaluating health literacy in Turkey in line with scientific studies, it was determined that the general trends related to health literacy are high. The study was concluded with recommendations.

Keywords: Descriptive Content Analysis, Education, Health Literacy, Postgraduate Study, Qualitative Research

1. Introduction

Human beings have been struggling to meet their basic needs since the moment they came into existence. Just as eating, drinking and sleeping are the needs of humans, being healthy can also be expressed as a basic need. Because it is not possible for an individual who is not healthy to meet his/her basic needs. In this sense, health stands out as one of the basic needs that should be protected, cared about and worked on. People need some basic skills to live as healthy individuals. In this respect, it can be said that health literacy, which is associated with having health-related knowledge, skills and values, is among the important issues for individuals and society. Therefore, this research is shaped by the evaluation of graduate studies on health literacy.

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To start with the definition of the basic concepts, the Turkish Language Association Dictionary (2024) defines the word health as “The state of complete physical, social and spiritual well-being of the individual, well-being of the body; joy, wellness” (<https://sozluk.gov.tr/>). The World Health Organization (WHO), on the other hand, defines health as “a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity” (WHO, 2024). Literacy is basically a concept related to reading, writing, education, teaching, skills and speaking ability. In this sense, functional health literacy can be defined as the ability to read and understand health-related information and adapt to changing health conditions (Andrus & Roth, 2002; Norris & Philipps, 2003; Speros, 2005; Koçoğlu et al., 2021). Being functionally literate is recognized as the basis for all kinds of success, both in school and in life. Being literate not only contributes to personal development or personal learning but also to being successful in school and in life (Rintaningrum, 2009). In this sense, it is important that the competencies related to literacy are acquired primarily by teachers (Koçoğlu, 2021 a; Koçoğlu, 2021 b), who are individuals who think, produce and criticize as managers of the learning environment, and all other educational stakeholders.

The idea of redefining literacy as a social practice is quite new. In the first half of the twentieth century, a form of literacy-based largely on oral expression and printed texts was considered sufficient as a skill and practice approach. However, the concept of multiple literacies, introduced by Cope and Kalantzis in 2000, emerged with a measure that recognizes the influence of social and cultural contexts on different types of texts (Barton & Lennon, 2020). Thus, literacies started to emerge with their different types. It can be stated that health literacy emerged due to this diversification.

Technology plays an important role in human life in terms of meeting needs and making life easier. The increase in the use of technology day by day has harmful aspects as well as benefits (Koçoğlu et al., 2022). In recent years, the increase in the rate of seeking treatment over the internet, especially regarding health problems, the difficulty in accessing accurate information about health due to digital pollution, and the increase in health problems caused by digitalization have led to the emergence of the concept of health literacy as a necessity. With increasing digitalization, it is seen that excessive repetitive online health research related to health anxiety or distress has caused an intensity in studies on many disorders, especially cyberchondria. Therefore, it has been understood that individuals should critically analyze their health-related knowledge and be equipped by balancing the use of technology in a healthy way. This situation further increases the importance given to the concept of health literacy (Aydemir & Yaşar, 2023; Ekinci et al., 2021; Starcevic, 2017; Starcevic et al., 2020).

One of the first conditions for a person to lead a quality, productive, prosperous and happy life is to be a healthy individual. Therefore, health is an important human capital that needs to be cared and protected, and it has led to the emergence of the concept of health literacy by meeting with a certain knowledge, experience and interest (Avcu & Dal Biçer, 2024). In this sense, the concept of “health literacy” first appeared in the study titled “Health Literacy as social policy” prepared by Scott K. Simonds in 1974 (Aktaş, 2018; Simonds, 1974). However, the widespread use of the concept came after the “National Assessment of Adult Literacy” (NAAL) study conducted in the United States in 2003. Health literacy is a concept that still attracts the attention of many researchers and increases its importance day by day (Balçık et al., 2014; Uruç Öztürk, 2018). In this direction, health literacy aims to create health awareness in the society by providing adults with the ability to make the right decisions about their own health in order to protect and maintain health. The concept of health literacy has evolved from a history of identifying, redefining and quantifying the functional literacy needs of the adult population (Berkman et al., 2010; Kalaycı Oflaz, 2023; Kickbusch et al., 2005; Nutbeam & Kickbusch, 1998). Health literacy is related to reading and understanding health-related information, making appropriate decisions and sharing responsibilities by using that information (Osborne, 2012; Weiss, 2003). Health services inherently affect health outcomes through activities carried out at three main points: transportation, self-care, and interaction between the health care team and the patient (Yılmaz & Tiraki, 2016). It can be stated that by improving health literacy and services, results will be obtained in the desired direction (Ali et al., 2024). Therefore, those who master these three points are expected to reach a level that can protect their health as health literates.

Health literacy is shaped by three basic skills such as health care, disease prevention and health promotion (Ulu Kalın, 2021). In this sense, failure to develop health literacy skills leads to some negative consequences. These include poor health status, lack of knowledge about medical care and conditions, decreased understanding of

medical information, lack of understanding and use of preventive services, poor perception of personal health status, low compliance rates, increased hospitalizations and increased health care costs. Medical communities need to acknowledge these problems and develop strategies to overcome the barriers that limit patients' ability to adequately navigate the health care environment (Andrus & Roth, 2002). Otherwise, in addition to increased costs, societal health is likely to suffer. As a matter of fact, taking preventive measures in health can contribute more to reducing health costs and protecting public health (Palumbo, 2017).

Although there are many studies on this research in Turkey (Akyüz, 2021; Alp & Mete, 2023; Çelik & Kuçlu, 2022; Ekinci et al., 2021; Koç Akran, 2021; Kurtulmuş & Ilgın, 2024; Şantaş, 2021; Turan et al., 2023) and in the international literature (Huy, 2022; Kondilis et al., 2008; Paucar-Caceres et al. 2023; Tabak et al., 2023; Tavousi et al., 2022; Qi et al., 2021), any study on the subject wasn't found up-to-date and only in the field of education. In this respect, it is thought that this study is important and will contribute to literature.

The general aim of this study is to evaluate health literacy in Turkey in line with scientific studies. In this direction, the main problem of the research was determined as "What is the general trend of scientific studies on health literacy in Turkey?". In line with the stated purpose and importance, answers to the following sub-objectives were sought;

1. What is the distribution of postgraduate studies on health literacy in the field of education according to years?
2. What is the distribution of postgraduate studies on health literacy in the field of education according to their types?
3. How is the distribution of postgraduate studies on health literacy in the field of education according to the subjects?
4. What is the distribution of postgraduate studies on health literacy in the field of education according to universities?
5. What are the research methods used in graduate studies on health literacy in the field of education?
6. With which study group or participants were the postgraduate studies on health literacy in the field of education conducted?
7. What is the distribution of postgraduate studies on health literacy in the field of education according to data collection tools?
8. What is the distribution of postgraduate studies on health literacy in the field of education according to data analysis methods?
9. What is the distribution of postgraduate studies on health literacy in the field of education according to data analysis methods?

2. Method

This section includes four subheadings: the research model, the scope of the research, the data collection tool, the data collection process and the analysis of the data.

2.1. Research Model

In this study, qualitative research model and document analysis technique were used. Qualitative research can be defined as a research method in which meaning and understanding are concentrated, the researcher is the main tool, rich descriptions are made, and an inductive process is followed (Merriam, 2018). Qualitative research aims to answer questions related to understanding the dimensions of meaning and experiences of people's lives and social worlds. Central to good qualitative research is whether researchers illuminate subjective meanings, actions and social contexts as they understand them (Fossey et al., 2002). Besides, in qualitative research, there is an effort to reach a deep understanding of the subject matter. In this respect, the researcher acts like an explorer, traces the reality with additional questions and attaches importance to the subjective perspective of the interlocutor (Karataş, 2015).

Document review technique is a technique related to obtaining, reviewing, questioning and analyzing various documents, which are considered as primary or secondary sources that constitute the data set of the research. Document review is a systematic process of examining or evaluating both printed and electronic materials. Documentary materials in various forms such as meeting minutes, guides, books, diaries, journals, magazines, letters, newspapers, radio and tv program scripts, corporate reports, survey data, various public records, sketchbooks and photo albums can be used for systematic evaluation (Bowen, 2009). In this sense, it can be stated that any written document or source can be analyzed through document analysis.

2.2. Scope of the Study

This study will examine the general trends of health literacy in Turkey in line with scientific studies. The theoretical population of the study consists of 11 postgraduate theses published in Turkey between 2015 and 2023 on health literacy only in the field of education. All of the theses included in the scope of the study consisted of studies published as open access in the database of YÖK National Thesis Center until August 12, 2024. The names of the theses, the years they were published in and by whom they were written are presented in Appendix 1.

2.3. Data Collection Instrument and Procedure

As stated before, the aim of this study is to evaluate the postgraduate studies on health literacy in the field of education in Turkey according to different criteria. For this purpose, the keyword “health literacy” was searched in the database of YÖK National Thesis Center. Theses were examined in detail and 11 postgraduate studies on health literacy were identified only in the field of education. The specified studies were first downloaded to the computer and a thesis list was created. On 12.08.2024, when the scanning was made, 11 postgraduate studies on health literacy prepared only in the field of education were examined in the system in accordance with the predetermined criteria. After the examinations, the necessary data were collected through the publication classification form developed by Çiltaş et al. (2012) and adapted to this study. In this direction, evaluations were made by determining the years, thesis types, subjects, universities, methods, participants/study group, data collection tools, data analysis methods and results of the specified postgraduate studies. The data obtained were tabulated and presented in the findings section with comments.

2.4. Data Analysis

Document analysis is categorized into three groups: meta-analysis, meta-synthesis and descriptive content analysis. Descriptive content analysis was used in this study. Descriptive content analysis can be defined as a systematic study that involves determining the trends and evaluating the research results in a descriptive dimension by considering the studies conducted on a specific subject (Çalık & Sözbilir, 2014). In this study, the trends in the literature were tried to be determined as postgraduate studies on health literacy in the literature were analyzed in line with the criteria previously determined by the researcher.

3. Findings

In this section, the findings obtained for the research questions are analyzed in order. The data obtained are presented in tables with their interpretations below.

3.1. Distribution of Studies by Year

The findings regarding the distribution of postgraduate studies on health literacy in the field of education according to the years are given in Table 1.

Table 1: Findings Regarding the Distribution of Studies According to Years

Distribution of Studies by Year	<i>f</i>	%
2023	3	% 27.27
2022	3	% 27.27
2020	1	% 9.09
2019	3	% 27.27
2015	1	% 9.09
Total	11	% 100

When the findings regarding the distribution of studies by years in Table 1 are examined, it is seen that the first study on health literacy in the field of education was prepared in 2015. The years with the highest number of studies were 2019, 2022 and 2023, with 3 studies each, and the years with the lowest number of studies were 2015 and 2020. Looking at the rate of preparation of the studies, it is seen that there is a significant growing trend in the studies prepared after 2019. However, it can be said that the number of studies prepared on the subject is not yet at the desired rate.

3.2. Distribution of Studies According to Thesis Types

The findings related to the distribution of postgraduate studies on health literacy in the field of education according to thesis types are given in Table 2.

Table 2: Findings According to the Thesis Types of the Studies

Posgraduate Level	<i>f</i>	%
Master's Degree	6	% 54.54
PhD	5	% 45.45
Total	11	% 100

When the findings regarding the distribution of studies according to thesis types in Table 2 are examined; it is seen that a total of 11 graduate studies were prepared. It was determined that 6 of these studies were prepared at master's level and 5 of them were prepared at phd level. It can be stated that the results are close to each other and the graduate studies are almost at the same level. In another aspect, it can be stated as a remarkable result that phd studies are at a close level with master's studies.

3.3. Distribution of Studies by Subjects

The findings regarding the distribution of postgraduate studies on health literacy in the field of education according to the subjects they were prepared are given in Table 3.

Table 3: Findings Regarding the Distribution of Studies According to Subjects

Study Subjects	Studies	<i>f</i>
1. Health literacy in secondary school textbooks	S-1	1
2. Health literacy levels of teachers and pre-service teachers	S-2, S-3, S-10	3
3. The effect of health education on health literacy of secondary school students	S-7	1
4. Health literacy levels of university students	S-4, S-5, S-6,	3
5. Factors affecting e-health literacy skills of chronic patients	S-8	1
6. Artificial intelligence to support health literacy	S-9	1
7. Gamified health literacy training	S-11	1
Total		11

When the findings regarding the distribution of the studies according to the subjects in Table 3 were examined, it was determined that the studies aimed at determining the health literacy levels of university students (f-3) and the studies aimed at determining the health literacy levels of teachers and teacher candidates (f-3) stand out in terms of subject matter. In addition, it was seen that there are studies prepared on different topics such as health literacy in textbooks, e-health literacy skills of chronic patients, support of artificial intelligence to health literacy and gamified health literacy education. In this direction, it was determined that postgraduate studies on health literacy are concentrated on educational stakeholders such as teachers, preservice teachers, students and textbooks.

3.4. Distribution of Studies by Universities

The findings regarding the distribution of the universities where the postgraduate studies on health literacy in the field of education were prepared are shown in Table 4.

Table 4: Findings on the Distribution of Studies According to Universities

The name of university	<i>f</i>
1. Ankara University	2
2. Gazi University	2
3. Atatürk University	1
4. Burdur Mehmet Akif Ersoy University	1
5. Fırat University	1
6. Hacettepe University	1
7. Isparta Applied Sciences University	1
8. İstanbul University	1
9. Marmara University	1
Total	11

When the findings in Table 4 regarding the distribution of the studies according to the universities where the studies were conducted were examined; it was seen that a total of 11 studies were prepared in 9 different universities. In this sense, there was a diversity in the number of universities. In addition, the fact that the studies were generally prepared in universities in big cities can be stated as another remarkable result. When the findings were examined, the universities where the most studies were prepared were Ankara and Gazi universities with 2 studies each. Apart from this, it was determined that Atatürk, Burdur Mehmet Akif Ersoy, Fırat, Hacettepe, Isparta Applied Sciences, Istanbul and Marmara universities prepared 1 study each. Considering the existence of more than 200 universities in Turkey, it can be said that the number of universities where studies were conducted is quite insufficient.

3.5. Research Methods Used in the Studies

The findings related to the research methods used in postgraduate studies on health literacy in the field of education are shown in Table 5.

Table 5: Findings Regarding the Research Methods Used in the Studies

Method	<i>f</i>	%
Quantitative Method	7	% 63
Mixed	3	% 27
Qualitative Method	1	% 9
Total	11	% 100

When the findings related to the research methods used in the studies on health literacy were analyzed in Table 5, it was determined that there were 7 quantitative, 3 mixed and 1 qualitative studies. Accordingly, it was seen that quantitative method was the most used method (*f*-7) in the studies. The number of studies prepared with mixed methods (*f*-3) was also significant. Studies prepared with qualitative method (*f*-1) were prepared at the lowest level. In this direction, it was determined that quantitative and mixed methods were mostly used in studies on health literacy, while qualitative methods were not yet at the desired level. It can be said that this situation was because the subject of health literacy requires multi-participant studies.

3.6. Participants of Studies/Study Group

The findings regarding the participants/study group of the postgraduate studies on health literacy in the field of education are given in Table 6.

Table 6: Findings Regarding the Participants / Study Group of the Studies

Participants/ Study Group	Studies	<i>f</i>
Undergraduate and associate degree students	S-4, S-5, S-6	3
Middle and high school students	S-1, S-7	2
Teachers and prospective teachers	S-2, S-10	2
Physicians specialized in different fields	S-9	1
Chronic patients	S-8	1
Teachers and students	S-3	1
Adults over 18 years of age	S-11	1
Total		11

When the findings regarding the participants/study group of the postgraduate studies in Table 6 were examined, it was determined that most of the studies were conducted with undergraduate and associate degree students. The number of studies prepared with secondary and high school students, teachers and teacher candidates was also significant and at a considerable level. In addition to these, there were studies conducted by physicians specialized in different fields, chronic patients, teachers and students, and adults over the age of 18. One of the noteworthy issues in this direction was the diversity of participants or study groups, and the other was that not only education stakeholders but also health stakeholders were included in the studies. The reason for this may be that a broad field selected from the fields of health and education was chosen as the study area.

3.7. Data Collection Instruments of the Studies

The findings regarding the data collection instruments of the postgraduate studies on health literacy in the field of education are given in Table 7.

Table 7: Findings Related to Data Collection Instruments of the Studies

Research Model	Data Collection Instrument	<i>f</i>
Quantitative	Scale	6
	Survey	1
Mixed	Survey – Interview Form	1
	Survey – Interview Form	1
	Scale – Open-ended Questions/Rubric for Case Study Activities	1
Qualitative	Interview Form	1
Total		11

Table 7 presents the findings regarding the data collection instruments used in the preparation of graduate studies on health literacy. Accordingly, it was determined that the most used data collection instruments were scales (f-6), some of which consisted of questionnaires without validity and reliability, for different subjects in quantitative studies. In the mixed-method studies, it was determined that instruments such as interview forms, open-ended questions for case study activities and rubrics were used together with scales and questionnaires, some of which consisted of questionnaires without validity and reliability. Finally, in a qualitative study, a semi-structured interview form was used as a data collection tool. In this direction, it was understood that data collection instruments such as scales and questionnaires were generally used in quantitative studies.

3.8. Data Analysis Methods of the Studies

The findings regarding the data analysis methods of the postgraduate studies on health literacy in the field of education are given in Table 8.

Table 8: Findings Related to Data Analysis Methods of the Studies

Method	Statistics Method	Data Analysis Method	Conducted Studies	Frequency (<i>f</i>)	
M I X E D	Qualitative	Content Analysis	S-2	1	
		Content Analysis	S- 7, S-9	2	
		Descriptive Analysis and Content Analysis	S-3	1	
		Holistic Scoring Rubric	S-7	1	
M O D E L	Quantitative	Descriptive	Mean /Standard Deviation	S-9	1
			T-test	S-3, S-9	2
		Predictive (Inferential)	ANOVA	S-3, S-9	2
			Post-Hoc Analysis	S-3	1
			Tamhane's T2 Test	S-3	1
			Scheffe Test	S-3	1
			Achievement Test	S-7	1
			Tukey HSD	S-9	1

	Mean /Standard deviation /Frequency/Percentage/Number /Standard Point/Class Level	S-1, S-5, S-6, S-8	4	
Quantitative	Descriptive	Bartlett Test	S-6	1
		T-test	S-1, S-5, S-6, S-8, S-10	5
		ANOVA	S-5, S-10	2
		Kaiser-Meyer-Olkin (KMO) Test	S-6	1
		CHAID Analysis Technique	S-8	1
		Levene Test	S-6,	1
	Predictive (Inferential)	Chi-square Test	S-8	1
		Mann Whitney U Test	S-4, S-11	2
		Kruskal Wallis Test	S-4, S-11	2
		Wilcoxon Signed Ranks Test	S-11	1
		Kolmogorov Smirnov Test	S-4, S-11	2
		Spearman Correlational Test	S-11	1
		Chi-Square Test	S-4, S-6	2
		Normality Test	S-6	1
		Factor Analysis	S-5	1
		Covariance Structural Analysis	S-1	1
		Cronbach Alfa	S-1, S-4, S-6	3
		Total		

When the findings regarding the data analysis methods of the studies in Table 8 were examined, it was seen that the most used data analysis methods were T-test (f-5) in quantitative studies, T-test (f-2) and ANOVA (f-2) (quantitative part) and content analysis (qualitative part) (f-2) in mixed model studies. It was determined that content analysis technique was used in the only qualitative study of the research. In addition, in quantitative studies, data analysis methods such as descriptive statistics (f-4) (frequency, percentage, standard score, arithmetic mean, standard deviation, number and grade level) and Cronbach's Alpha (f-3) were used to a significant extent.

3.9. Results of the Studies

The findings related to the results of postgraduate studies on health literacy in the field of education are shown in Table 9.

Table 9: Findings on the Distribution of Studies According to Results

Code of the Studies	Results of the Studies
S-1	According to the results obtained from the research, it was determined that the majority of the students had low levels of health literacy, while their attitudes towards health issues were positive. It was observed that biology textbooks and curricula didn't contain sufficient information to increase health literacy.
S-2	According to the data obtained from the study, it was determined that pre-service science teachers were aware of the relationship between nutrition and health and therefore act consciously regarding the use of medication. In addition, it was determined that pre-service teachers had high levels of awareness about utilizing health services, were aware of the importance of first aid for human life, and that the science course would provide a positive contribution to the development of health literacy.
S-3	According to the quantitative findings obtained from the research, the health literacy status of secondary school students was generally found to be at a high level. When the results obtained from the interviews conducted with secondary school students in the research were examined, it was seen that the students' awareness of health literacy was high and the quantitative findings were supported.

S-4	According to the findings of the study, health behaviors of health technician students were found to be determinant in health literacy scores and health literacy level.
S-5	As a result of the study, it was determined that university students had sufficient level of health literacy knowledge. It was concluded that women participating in the study were more knowledgeable than men. It was determined that students who followed innovations in the field of health had higher health literacy levels than students who didn't follow innovations.
S-6	According to the results obtained from this study, it was found that the health literacy levels of the students were at an adequate level. However, based on the education program and grade levels, it was revealed that social work education didn't create a statistically significant difference in the health literacy levels of students in the processes of accessing, understanding, evaluating and using information. In addition, it was determined that there was no statistically significant difference in the treatment, service, disease prevention and health promotion dimensions of health literacy according to the education program and grade levels.
S-7	When the qualitative data of the study were analyzed, it was concluded that health education supported by case studies was more effective in increasing the health knowledge of secondary school students. However, it was observed that the health education supported by case studies didn't make a significant difference in the health literacy levels of the students compared to the students who received health topics education with the current program. By analyzing the quantitative data of the study, it was determined that students were familiar with epidemic diseases, epidemic-related science concepts, ways of spreading diseases, measures to be taken to prevent transmission in case of an epidemic and developed positive attitudes towards epidemic-related hygiene and nutrition habits, and epidemic-related ethical and empathic views.
S-8	Internet and different social media use was found to be an important factor on e-health literacy skills. Thanks to the use of digital technologies, chronic patients can access health information more accurately. However, mobile health text message training can be used as an educational tool to increase patients' awareness of healthy living and to direct patients to more accurate health information.
S-9	The physicians participating in the study found ChatGPT reliable in terms of providing accurate information. The level of the above "risk of producing erroneous information" can be determined by using ChatGPT more frequently. While ChatGPT was considered as a tool to support health literacy, its functional use depends on increasing health literacy.
S-10	When the correlation analysis results were examined in this study, it was determined that there were significant positive relationships between all dimensions. There was a significant difference in terms of age, gender and whether the participants were vaccinated against COVID-19; however, there was no significant difference in terms of marital status, professional experience, education level and the institution where they worked. In line with the results of the study, it was recommended to conduct a comprehensive study involving other professional groups and to inform the public and students about health literacy through cooperation and protocols with the Ministry of National Education and stakeholder institutions due to the high level of knowledge of teachers about health literacy.
S-11	Statistical analysis showed that there was a significant difference between the pre- and post-test scores of the users ($p < 0.05$). Furthermore, the analysis of the post-test results revealed significant differences between participants of different educational and age groups. Finally, the analysis shows that there is a negative relationship between users' post-test scores and their body mass index. The results of this study are expected to contribute to the gaps in the literature on health literacy and gamification.

According to the results obtained from the studies, it was concluded that the health literacy levels of secondary school, associate and undergraduate students, adult chronic patients and other participants were generally high (f-8). In addition, it can be stated that health literacy levels have increased with the development of digital technologies and health literacy training has increased health literacy skills. Finally, in the findings of quantitative studies in which different dimensions were examined, there were studies supporting the high level of health literacy, while there were some studies that didn't support it.

4. Discussion and Conclusion

The concept of health refers to an individual's physical, mental and social well-being. To have a healthy life, it is expected to reach a certain level of awareness. In this sense, becoming a health literate individual is realized through the correct use of certain knowledge, skills and abilities. Hence, it can be stated that it is important for individuals and society to develop health awareness by undergoing certain health-related training.

The results obtained from this research are remarkable. The results obtained contain important clues about health literacy in the field of education. According to the findings obtained in this direction; the years in which the most studies were prepared were 2019, 2022 and 2023 with three studies each; according to the types of theses, master's theses were prepared more; when the distribution of the studies according to the subjects of the studies was examined, it was determined that most studies were prepared to determine the health literacy levels of teachers, teacher candidates and university students; when the distribution of the studies according to universities was examined, it was determined that two studies were prepared in Ankara and Gazi universities and one study was prepared in other universities. Among the research methods used in the studies, quantitative research method was used more; when the findings related to the participants/study group of the studies were examined, it was determined that there were mostly studies conducted with undergraduate and associate degree students; the most commonly used data collection tools in the studies were scales consisting of questionnaires, some of which were not validated and reliable for different subjects in quantitative studies; when the findings related to the data analysis methods used in the studies were examined, it was determined that T-test and descriptive statistics were mostly used in quantitative studies. Furthermore, when the results obtained from the studies were examined, it was seen that the health literacy level and awareness of students from different levels and other participants were at a high level. According to these results, it can be stated that the participants had sufficient knowledge, skills and equipment to understand what they read about health and apply them correctly to their lives.

In the study prepared by Turan et al. (2023), it was found that the issue of health literacy attracted the most attention in 2022 as of 2011 and that studies in the field of nursing were concentrated; In the study conducted by Paucar-Caceres et al. (2023), it is determined that the interest in health literacy among scientists has gradually increased and the number of publications has increased significantly especially in the last five years. This finding is similar to the results of this study. In this study, the number of master's and doctoral theses were close to each other; in Alp & Mete's (2023) study, the number of studies at master's thesis level was almost five times the number of studies at doctoral thesis level; in Kurtulmuş & Ilgın's (2024) study, although there were 19 master's theses, there were no studies at doctoral level. Doctoral level and similar to the results of this study, it was determined that the number of studies with qualitative design was insufficient. According to the types of theses, it was seen that the number of studies on health literacy in the master's degree type is high. In this study, while the number of studies on determining the health literacy levels of teachers and students was high; in the study conducted by Koç Akran (2021), it was understood that the most emphasized concepts were concepts such as "information search", "information interpretation" and "health awareness". Finally, according to the results obtained from this study, although it was determined that the health literacy level of the participants was high, it was seen that the health literacy level of the participants was insufficient in the study conducted by Andrus & Roth (2002). As a result, it was determined that the level of health literacy in postgraduate studies prepared in the field of education related to health literacy in Turkey is high and there is a general increasing trend in the number of studies on the subject. It can be stated that the use of digital technology increases the level of awareness, and the training provided by different individuals, institutions and organizations for health literacy are effective in this sense. However, it can still be stated that the number of studies on health literacy in the field of education is not sufficient and further studies should be conducted on the subject.

In this direction, the following suggestions can be made;

- Qualitative studies can be featured more by increasing the number of theoretical or applied studies on the subject at different educational levels related to the field of education.
- Meta-analysis or descriptive content analysis studies with wider participation in terms of subject and scope can be conducted.
- Elective health literacy courses to be taught at different levels of education can be added to curricula

or integrated into courses by associating them with daily life.

- Considering that the entire society passes through educational institutions in one way or another, it may be useful to organize informative meetings, conferences, panels and symposiums to increase health literacy skills.
- To spread preventive health measures, programs and advertisements can be created and presented to the public through digital platforms.

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Appendix-1

Number	Year	Postgraduate Level	Author	The scientific studies used in the study
1.	2015	PhD	Suzan SÖNMEZ	Ortaöğretimde Sağlık Okuryazarlığı
2.	2019	PhD	Abdullah Alper ERTEM	Sağlık Okuryazarlığının Sağlık Davranışlarıyla İlişkisi (Sağlık Teknikerliği Öğrencileri Üzerine Bir Araştırma)
3.	2019	Master's Degree	Bahar GÖRGÜN	Üniversite Öğrencilerinin Sağlık Okuryazarlığı Düzeyini Belirlemeye Yönelik Bir Araştırma (Fırat Üniversitesi Örneği)
4.	2019	Master's Degree	Selim ÜRGÜN	Sosyal Hizmet Eğitiminin Sağlık Okuryazarlığı Düzeyi Üzerine Etkisi: Erzincan Üniversitesi Örneği
5.	2020	Master's Degree	Özge SARIKAYA	Fen Bilgisi Öğretmen Adaylarının Sağlık Okuryazarlığı Durumları
6.	2022	PhD	Alp Eren YÜCE	Kronik Hastaların E-Sağlık Okuryazarlığı Becerilerini Etkileyen Faktörlerin Belirlenmesi ve Mesajla Bilgilendirme Eğitimi Geliştirilerek Etkisinin İncelenmesi
7.	2022	PhD	Burcu KARAMAN	Sosyal Bilgiler Eğitimi Çerçevesinde Sağlık Okuryazarlığı: Öğretmen Görüşleri ve Öğrencilerin Sağlık Okuryazarlık Durumları
8.	2022	Master's Degree	Hatice Nur AÇIK	Örnek Olaylarla Desteklenmiş Sağlık Eğitiminin Ortaokul Öğrencilerinin Salgın Hastalıklarla İlgili Bilgi, Tutum ve Sağlık Okuryazarlığına Etkisinin İncelenmesi
9.	2023	Master's Degree	Mustafa Said YILDIZ	Yapay Zekâ Sohbet Robotunun Sağlık Okuryazarlığını Desteklemesine Yönelik Hekim Değerlendirmelerinin İncelenmesi
10.	2023	Master's Degree	Abdil LORCU	Öğretmenlerin Sağlık Okuryazarlığı Düzeylerinin Belirlenmesi: Isparta İli Örneği
11.	2023	PhD	Ekrem KUTBAY	Oyunlaştırılmış Sağlık Okuryazarlığı Eğitimi ve Etkileri