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INVESTIGATION OF PUBLISHED THESES ON HEALTH LITERACY IN NURSING BY SOCIAL NETWORK ANALYSIS

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ABSTRACT

Aim: In this study, the theses written about health literacy in the field of nursing were taken into account and it was aimed to reveal the knowledge of the theses published in this field.

Methods: Social network analysis was carried out in line with the keywords obtained from the theses prepared for health literacy. Theses used in the study were accessed via https://tez.yok.gov.tr/UlusalTezMerkezi/. During the review, the theses under the Nursing Department with the phrase"health literacy"in the title were selected and the keywords obtained from these theses were included in the study.

Results: It has been determined that the keyword with the highest degree and betweenness centrality is health literacy.”The keywords "health literacy", "nursing", "health" and "education" have the highest degree and betweenness centrality.

Conclusion: It is a guide for researchers who want to study health literacy in the the nursing field to show which concepts are related to health literacy in the study. Through this work, we can create innovative research questions, focus on topics not considered necessary, and contribute to the literature.

Keywords: Nursing, health literacy, social network analysis, degree centrality, betweenness centrality

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Introduction

Health literacy considers that medical decision-making is vital and important in the process of increasing patients' awareness of their diseases and understanding the appropriate treatment method for their diseases (1). Health literacy serves to access patients' health information, process it after accessing it, understand information, and express individual skills to use it and stay healthy (2). Health literacy skills are essentialin making a final decision about the disease to lead a healthy life. These skills help prevent illness and allow patientsto make time for self-care and make decisions that will benefit them or throughout the illness (3).

One of the most important reasons for the increase in interest in health literacy in recent years is that studies and results related to health literacy are related and based on evidence (4). With the increasing evidence, it is seen that people who make health decisions to continue their daily lives and who do not have health literacy skills feel more vulnerable and face worse health outcomes (5-7). It has been motivating in terms of understanding, researching, and applying the patients' health problems with trust in the health system in the medical process (8). Therefore, patients can improve their health behaviors and protection skills related to their health (9).

Within the scope of the study, the theses written about health literacy in the field of nursing were taken into account and it was aimed to reveal the knowledge of the theses published in this field. For this reason, nurses working on health literacy aim to guide in this area in line with their studies.

Methods

In line with this study, the keywords obtained from the theses published on health literacy were evaluated by bibliometric method, and social network analysis was performed.Theses used in the study were accessed via https://tez.yok.gov.tr/UlusalTezMerkezi/. During the review, the theses published in the Department of Nursing and with the phrase "health literacy" in the title were selected and the keywords that were accessed were included in the study. As a result, 82 theses were determined, but the keywords of 81 theses were reached. One hundred seventy-onekeywords were found out of 81 theses included in the study. The number of valid keywords was 57 after the keywords with the same meaning and repeating were determined as a single keyword.

The bibliometric method can be defined as a method used to rank data according to a specificdesign within the scope of the study and to monitor its progress, including published studies, author links, keywords, studies, and methods (10,11).

Social network analysis (SNA) enables us to obtain meaningful results by examining the business relationship, family relationships, or social relations between people, groups, or organizations within the social network structure. In addition, SNA contributes to the studies of various disciplines in the social field (12-14). Social networks and SNA aim to improve the understanding of relationships, which are complex for researchers, and as a result, to learn what kind of intervention is required. SNA has become an increasingly used method in different fields (13,15,16). In addition, with this method, the structure of the area of interest is examined, the network structure is determined, and the relations between the communities are visualized and modeled (17). In this study, the keywords taken from the theses related to health literacy in the nursing department constitute the units. In SNA, relationships between keywords are analyzed, and links are visualized with a network map.

The centrality criteria explain the determination of the actors in the social network according to their level of

importance. The centrality measures are divided into degree and betweenness centrality. Degree centrality can be expressed in two different ways the number of connections belonging to a node or the number of degrees of relations connected to that node (18,19). A high number of bonds for an actor indicates that it is in a central location. The actor with a high degree of centrality is the most active actor in the network (20). Betweenness centrality refers to the degree to which an actor is among non-relationship actors. Betweenness centrality mediates the exchange of information between non-connected nodes and connected actors (21). Keywords obtained from 81 theses related to health literacy were reached, and these keywords were analyzed with SNA and the network map was tried to be visualized. Analyzes were made using the UCINET (22) program. A 57x57 data matrix was created using the UCINET 6 program with 57 keywords obtained from the theses. Because some keywords are repetitive and have the same meaning, words with the same meaning are combined into one keyword.

Results

The cumulative distribution of the theses published on health literacy in the field of nursing between the years 2012-2022 is given in Figure 1. In Figure 1, it is seen that the theses on health literacy in the field of nursing started to be written in 2012. The number of these has increased over the years. It is aimed to visualize the network structure of the keywords accessed using SNA.

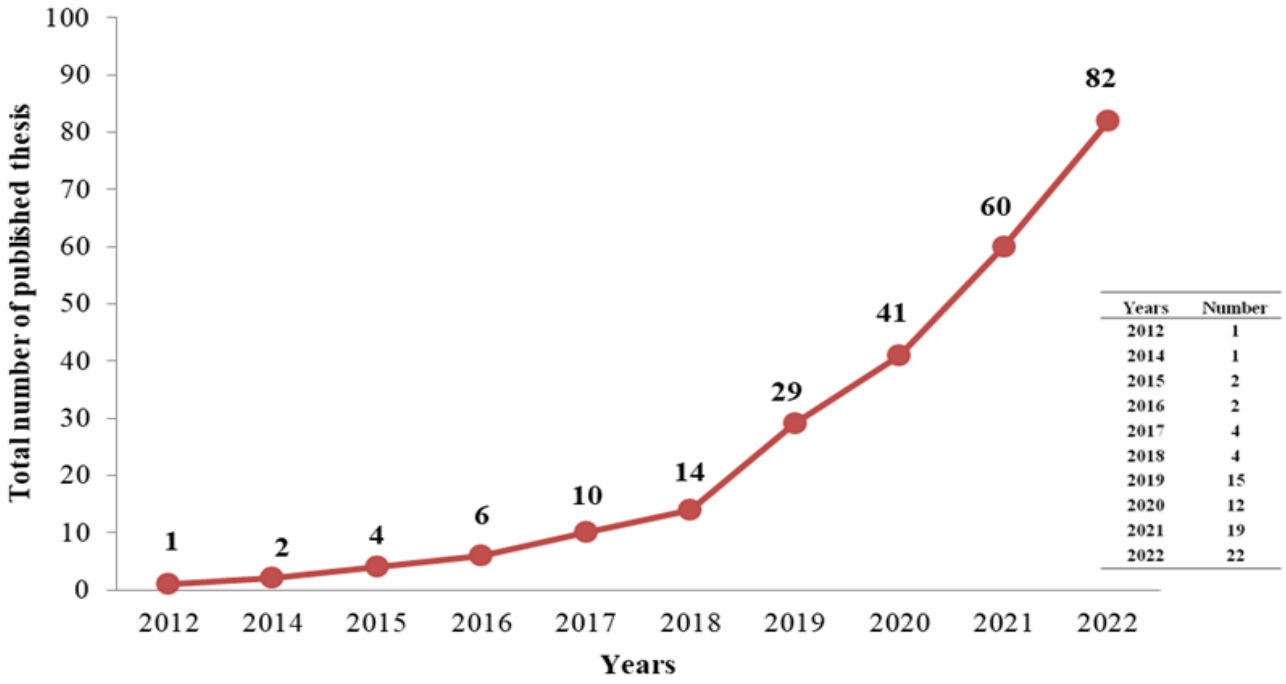

Figure-1. Distribution of the thesis according to the year

After the 57x57 square matrix of 57 keywords obtained from 81 theses available within the scope of this study, SNA was made. Table1 presents the degree and betweenness centrality findings for the keywords.

For table1 not to be too long, words with less than ten-degree centrality were not considered.

Tablo-1.The most important keywords with a degree and betweenness centrality value for health literacy in nursing.

Degree centrality		**Betweenness centrality**	
Keyword	**Value**	**Keyword**	**Value**
Health literacy	55	Health literacy	1,789.294
Nursing	38	Nursing	511.256
Health	19	Health	132.806
Education	16	Education	96.894
Quality of life	15	Quality of life	61.947
Mental Health	14	Mental Health	47.741
Comorbid disorder	13	Comorbid disorder	28.344
Cancer	10	Medication	21.667
Self-efficacy	10	Diabetes	15.939
Medication	10	Cancer	13.288

When table-1 is examined, it has been determined that the keyword with the highest degree and betweenness centrality is "health literacy". The keywords "health literacy", "nursing", "health" and "education" have the highest degree of centrality. These keywords are the words with the most links, the most focus on the word web, and the most discussed in theses. There is a high centrality of in-betweenness between the concepts of "health literacy", "nursing", "health" and "education". These keywords act as a bridge to connect unrelated words. The network map of the keywords compiled from the theses written related to health literacy in the field of nursing is demonstrated in Figure 2.

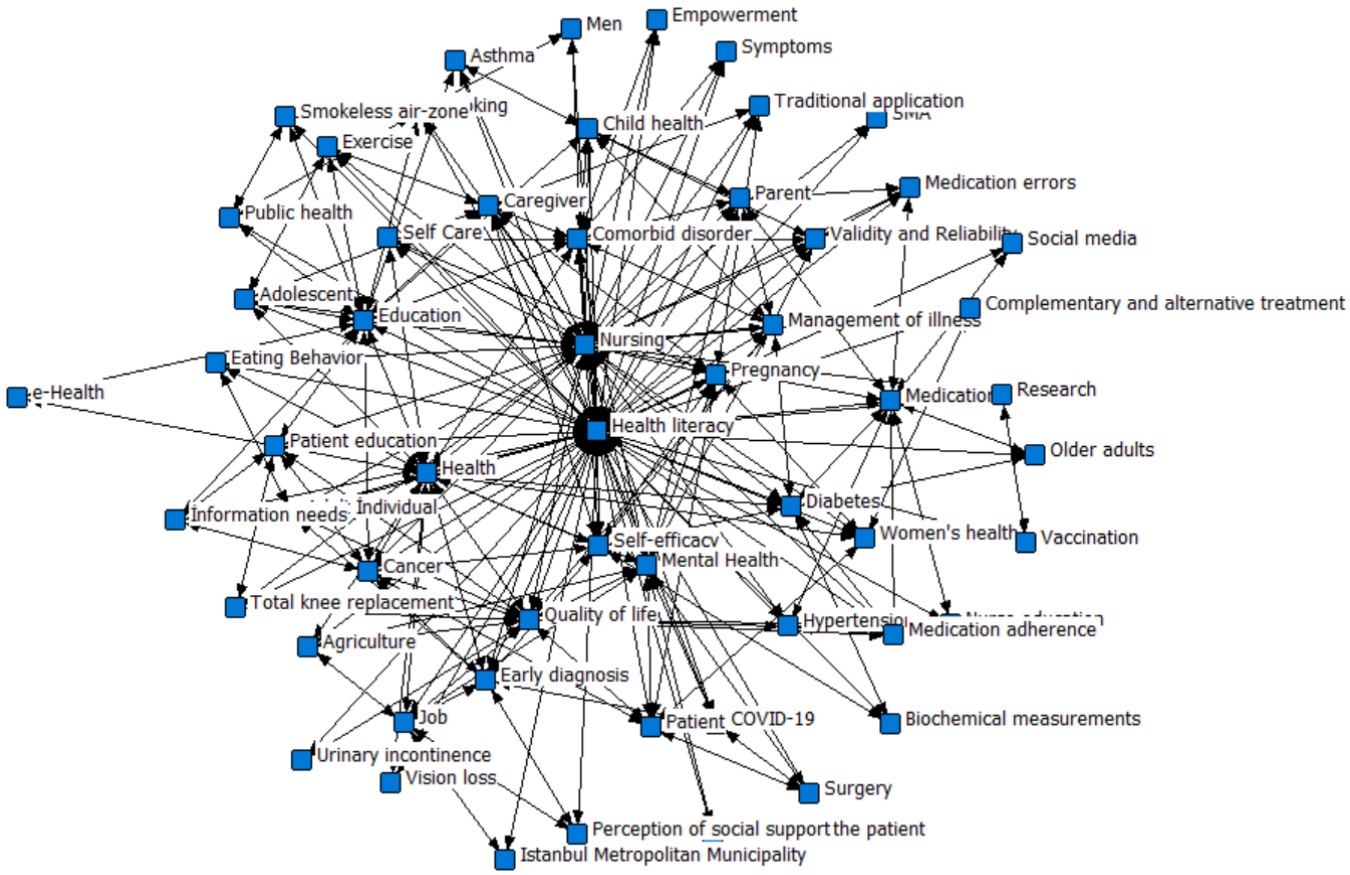

Figure-2. Network map of keywords obtained from theses included in the study

Discussion

In today's world, where access to information is readily available, individuals are expected to research, recognize and diagnose their diseases and make healthy decisions. Their ability to make these decisions correctly is related to their level of health literacy (23). An inadequate health literacy level brings with it many important issues, such as the incorrect transmission of health-related information, disruption of the treatment received by the person, and improper use of resources. Increasing the level of health literacy is of great importance both socially and economically.

Health literacy has become an increasingly popular field in recent years to improve individuals' health. Research shows that optimizing health literacy improves health and well-being and reduces health inequalities.

Within the scope of the study, it aimed to create a network map of the keywords obtained from the theses published in the field of nursing related to health literacy.

It is seen that the concept of health literacy has the highest centrality as a result of the findings obtained with SNA. Considering the theses related to health literacy in the nursing field within the study's framework, it is expected that the keyword "health literacy" is present in all theses. It was seen that the degree centrality of the words "nursing" and "health"

after the keyword "health literacy" was high. The concept of health literacy has often been discussed together with "nursing" and "health". The nurse has an essentialrole in realizing steps, such as accessing, understanding, and implementing health-related information. Nurses are responsible for the health care of individuals and spend more time with the patient compared to other health professionals. Nurses should have high health literacy skills by following the changes in health systems (24). It has been found that the limited health literacy level of nurses has significant effects on health outcomes. Therefore, it is recommended that nurses receive health literacy training (25). Another concept that is frequently encountered within the scope of the study is health. World Health Organization (WHO), "Health; is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (26). The concept of health cannot be explained by the absence of disease. It can be explained by the fact that individuals keep up with the changes in their internal and external environments and continue to be well (27). Since health literacy is essential for the health of individuals and society, the responsibility for improvement activities falls on health professionals and politicians. A healthy society can be achieved with an increase in the level of health literacy. It is extremely important to improve the health literacy levels of nurses during nursing education. Therefore, it is necessary to raise the level of health literacy and create awareness in nursing education.The level of health literacy affects the quality of life of individuals. It has been observed that individuals with low health literacy levels also have poor physical and mental health, which reduces their quality of life (28-30).

As expected in the study, the concept with the highest betweenness centrality was “health literacy”. It can be said that health literacy serves as a transition between unrelated concepts. After the health literacy keyword, it is seen that there is a high centrality between the concepts of "nursing" and "health" as in degree centrality.

Conclusion

This study indicates which concepts are related to health literacy, and is a leader for those who want to take health literacy education in the field of nursing. Through this work, we can create innovative research questions, focus on topics that are not considered important, and contribute to the literature.

Conflict of Interest: The authors declare that there is no conflict of interest.

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