Comparative Investigation of Health Literacy Level of Cardiovascular Patients Hospitalized in Private and Educational Hospitals of Kerman City, Iran

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ABSTRACT

Introduction: literacy involves a complex set of abilities to understand and use symbolic systems of a culture for personal development and social development in a diverse set of skills required as an adult to exercise behavior are considered in society. **Objectives:** The aim of this study was to evaluate Comparative investigation of health literacy level of cardiovascular patients hospitalized in private and public educational hospitals of Kerman city. **Methods:** This study used survey methods, analytical and cross-sectional manner. Data was collected through questionnaires distributed among 200 patients of cardiovascular-hospitalization took place in the city of Kerman. To analyze the data in the description of the mean, standard deviation and frequency distribution tables and the level of analysis to determine the relationship between gender and marital status of health literacy test or nonparametric test Mann-Whitney T-Test and, for the relationship between group employment and residence, a one-way analysis of variance or Kruskal-Wallis test, to evaluate the relationship between age and income, Pearson and Spearman correlation to investigate the relationship between level of education and health literacy of SPSS software version 21 was used. **Results:** The results showed that 10% of patients at educational hospitals in Kerman adequate health literacy, and 48% of patients in private hospitals had adequate health literacy. As a result, there is a significant difference of health literacy between the two types of hospital (p -value $<0/0001$). **Conclusions:** The results showed that most patients had inadequate and border health literacy have been. Health plans, preparation of simple educational system and understanding, spending more time and have a discussion with the lower speed In connection with the patient's doctor and medical staff, Including ways to help patients with low health literacy and improve their health literacy is.

Key words: health literacy, cardiovascular patients, hospitalized patients, educational hospitals, private hospital.

1. INTRODUCTION

Good health for all people is a very important issue and a lack of awareness about the ways information and knowledge in order to maintain health, cause anxiety, when they face the disease provides a (1). Low health literacy has been recognized as a global problem in the 21st century (2). Rapid changes in economic, social recent decades, along with the lack of public awareness in many countries of the Mediterranean and the Middle East, including Iran, has caused social cardiovascular diseases pose a major health problem and its dimensions are rapidly increasing. The disease, the leading cause of death worldwide and is known to kill 17 million people each year (one death, three deaths) and 2020 if certain preventive

measures are not taken, this number is 24.8 million people will be (3). In the early twenty-first century, most Azjdy cardiovascular health problems in the world (4), the first cause of death and the fifth leading cause of disability is (5). However, in the last two decades, much progress has occurred in the treatment of heart disease, but the incidence of heart disease is on the rise. So that nearly 15 million people worldwide are living with the disease (6). Therefore, one of the factors affecting cardiovascular disease prevention and improve the knowledge and awareness of the disease, factors affecting it, how to control and prevention is effective. Low health literacy is a risk factor for mortality in the elderly, particularly mortality from cardiovascular disease (7).

According to the Medical Association's committee on health literacy, health literacy is a public concern in terms of individual health promotion and environmental issues, disease prevention and early screening, as well as the sustainability of health care policy is (8). Various studies have shown that low levels of health literacy leads to delays in timely detection of disease (9), inability to self-care skills (10), increased use of emergency services, an increase in hospitalizations, increased incidence of disease different and ultimately lead to an increase in the mortality rate (11). In recent years the Iranian Ministry of Health developed several programs to promote a culture of health and in terms of the development of the fourth and the scientific community in studying the health of the country in 1389 to improve the health literacy taken into consideration, but practical and serious steps have been taken in this regard (12). In the area of health care has become an efficient tool that will refer to some of them. Ismaili and colleagues in a study titled "Evaluation of communication between health professionals and patients with chronic diseases, according to health literacy in Mashhad," it concluded that inadequate health literacy and 11.7% marginal 4.50% of subjects and The rest was enough. Health literacy poor communication about 76.7% of the elderly population and the rest were acceptable (13). The results Ghobadi and colleagues as "health literacy, negative emotional state and self-care dialysis patients" showed that 25 percent of subjects in low health literacy, health literacy sufficient 2/65 percent and 8.9 percent had marginal health literacy (14). The results Mollakhalili and colleagues as "health literacy of patients hospitalized in teaching hospitals of Isfahan University of Medical Sciences" showed that most patients with inadequate health literacy are (15). Results argument Borhani Nezhad as "the relationship of health literacy to health status in the elderly in Kerman, 2013" showed that most elderly of inadequate health literacy level (5/52%), respectively (16). The results Khosravi and colleagues., Entitled "The role of librarians and libraries in promoting health literacy: a review of the status of health literacy on diabetes care centers in the city" This study showed that 70 percent of elderly patients with diabetes, and those with inadequate health literacy had adequate health literacy had higher quality of life, (17). The results Reisi and co-workers as "adult health literacy survey the city" that range from inadequate health literacy of adults in the border (18). The results Kooshyar and et al., Entitled "Study of the relationship between health literacy and adherence to treatment and health-related quality of life in older adults with diabetes living in the community" showed that in this study, 70% of elderly patients with diabetes had inadequate health literacy (19). The results Kazaly and colleagues as "health literacy and outcomes of kidney transplant," showed that health literacy is an important factor for transplantation, physicians should evaluate the results of literacy education when interacting with patients who need a kidney transplant to consider (20). The results Driessnack, Jang, congested Quah and Hayden as "the latest vital signs to measure health literacy in children" showed that the rapid screening mechanism to identify NVS families who do not have adequate health literacy (21). Results Navarro as "health literacy and communication with antiretroviral therapy among young people with the human immunodeficiency virus (HIV)", the beliefs related to the in-

tegration model of health literacy and youth with HIV protection. However, in this study, antiretroviral therapy was not associated with health literacy, but this can be attributed to small sample size and further research with larger samples offered (22). Results of research and Yun Junglee as "consumer-oriented health care setting: Confident looking information, health literacy and trust to intelligence sources" showed that consumer confidence in the search for health information with a health literacy and trust to resources related information (23). . D.L.Nguyen and .M. Wieland He Disneyland as "risk factors predictive of poor quality of screening colonoscopy preparation" showed that the patients who were undergoing screening colonoscopy risk, an interpreter or having health insurance, the biggest predictors of being prepared enough for a colonoscopy. This could indicate a health care literacy is low and insufficient patients (24). The results NakagamiKatsuyuki and Akashi Keiko Akashi as "health literacy in patients with cancer of the digestive system before the surgery, the health literacy of early detection of cancer symptoms have used" that to obtain medical information for health literacy in patients with cancer of the digestive system is essential. In addition, patients with the symptoms of their disease prediction and then decided to consult with their physician (25). Army no results Neeraja B. Peterson Entitled "The impact of health education on colorectal cancer screening knowledge, attitudes and behavior" showed that the intervention to improve screening for colorectal cancer, especially when dealing with the obstacles encountered in screening should be considered in patients' health literacy (26). Results Michael S. Wolf, Julie A. Gazmararian, David Baker as "functional health status and health literacy among seniors" found that among seniors, inadequate health literacy was independently associated with poor physical and mental health (27). The results Lisa D. Chew, Katharine A. Bradly, Edward J. Boyko as "brief questions to identify patients with inadequate health literacy" showed that 15 participants (5.4%) had inadequate health literacy and 25 (5.7%) have literacy health marginalized (28). Studies in the field of health literacy show that the health literacy of both inside Iran and outside of Iran are inadequate or marginal. Most studies of functional health literacy questionnaire or the short form of the adults have used it. According to the questionnaire, people with inadequate health literacy on health literacy into three categories, marginal and inadequate health literacy are classified. Research shows that education is a very strong relationship with health literacy. According to studies, people with low education, low income, rural and sparsely populated areas, women and the elderly do not have adequate health literacy. The research carried out in this context the importance of public awareness and professional training have emphasized the issue of health literacy and essential. In this training, medical students, doctors and medical staff are also considered as Chew (28) pointed out, the awareness and the education of medical librarians and medical librarians can play an important role in promoting health literacy people.

2. MATERIALS AND METHODS

This cross-sectional study and the methodology applied in the survey. In the present study to evaluate and compare the health literacy of patients in educational and private hospitals

of Kerman in 2015 and deals with the method used. With regard to private hospitals in Kerman, in the period of the first quarter of 2015, research community, 900 patients admitted and discharged, will be considered. The 540 patients in teaching hospitals, healing and Afzalipour and 360 patients to private hospitals Zahra and Razia Feroz are, therefore, of 101 men to the teaching hospital and 67 people for private hospitals There generally is 168 people. The sample size was calculated using the following formula:

$$n = \frac{2 \left(z_{1-\frac{\alpha}{2}} + z_{1-\beta} \right)^2 \sigma^2}{d^2} = \frac{2(7.84)(18.12)^2}{(5)^2} = 206$$

And then the sample using a modified formula:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

And the possible loss of sample size was 200. Inclusion criteria included patients admitted to the study, adult, willingness to cooperate, at least literate and exclusion criteria include a lack of willingness to cooperate and the unwillingness to respond to the severity of the disease or lack of literacy in the was taken. Researcher to complete the questionnaire referred to the hospital and after coordination with the hospital administration, training supervisor and the head of each section, to the bedside of patients and after their introduction, and research and its purpose, with informed consent of the patient on cooperation in the study, to complete the questionnaire. In continuation of Functional Health Literacy in Adults questionnaire was used to collect data.

This questionnaire is one of the most prestigious in the world of health literacy assessment, which has been translated into several languages Validation (29) and earlier by (15) used the reliability of which 89% was calculated, with slight changes in your calculations and explanations relating to that case, and reliability and validity of the questionnaire was evaluated (91% reliability). Validity of (formal) questionnaire used in this study using the heart-lung expert, professor of health education, medical library and information science, statistics and research methods were approved. Inventory consists of 3 parts. The first part of the questionnaire related to demographic questions with regard to the objectives set. The second section describes calculations that has 10 or the health agenda. These statements include prescribed medications, the doctor, the use of funds and an example of the result of a medical test that person's ability to understand and act on the advice of his doctors and educators to give health, hence the need for measures to be calculated. The third part of reading comprehension, including 3 text, and the ability of the participants to read and understand the text under instructions 3.

Preparing for the shooting of the upper gastrointestinal tract, the patient's rights and responsibilities in the form of insurance and standard form a hospital satisfaction was measured. The person in each of the two parts between zero and 50 were considered. The total score of the two parts, the total score is a number between zero to 100 is health literacy, respectively. The sum of the scores of the two parts, the health literacy score is a number between zero and 100, respectively. The performance of each individual's health literacy scores into three levels inadequate (59-0), marginal (border) (74-

60) and adequate (100-75) was divided (29). To analyze the data in the description of the mean, standard deviation and frequency distribution tables and the level of analysis to determine the relationship between gender and marital status, health literacy, T-Test statistics and non-parametric test if data distribution is not normal mann-whitney was used. To determine the relationship between occupational groups and place of residence, the one-way Kruskal-Wallis test if there is no normal distribution of data was used. To examine the relationship between age and income, Pearson and Spearman correlation to investigate the relationship between the level of education and health literacy of SPSS software version 21 was used.

3. RESULTS

The results showed that 55% of the patients hospitalized in educational hospitals were male and 45% female. Also, 54% of patients admitted to private hospitals and 46% of them women and men have the data. In this study, 3% of patients admitted to educational hospitals for ages 20 to 30 years, 4% between 30 and 40 years, 10% between 40 and 50 years, 36% between 50 and 60 years and 47% of them aged over 60 years have formed.

Also, 3% of patients in private hospitals ages 20 to 30 years, 19% between 30 and 40 years, 19% between 40 and 50 years, 37% between 50 and 60 years and 22% of them aged over 60 years up have. 97% of patients in these hospitals were married and the rest of the 3% of them are single. Also in this study 68% of the population admitted to the educational hospital following training diploma, diploma and associate degree, 24% of the population and 8% have a bachelor's degree and more.

p-value	health literacy			hospital
	75-100	60-74	0-59	
	10(10%)	13(13%)	77(77%)	educational
<0/0001	48(48%)	31(31%)	21(21%)	private
	58(29%)	44(22%)	98(49%)	total

Table 1. Health literacy in 2 types of hospital

Also, 54% of the population admitted to private hospitals under Diploma, Diploma and Advanced Diploma 32% population and 14% have a bachelor's degree and more. 11% of the population admitted to the educational hospital of less than 4 Million Rial, 9% between 4 and 5 Million Rial, 17% between 5 and 7 Million Rial and 63% earn more than 7 Million Rial income. Also 3% of the population admitted to private hospitals less than 4 Million Rial, 3% between 4 to Million Rial, 10% and 84% of income between 5 and 7 Million Rial to 7 Million Rial income. In educational hospitals, 23% of patients are self-employed, 9% were employees, 9% of the working, retired 20%, 7% and 32% of households are unemployed and private hospitals, 29% of patients are self-employed, 21% of employees, 7% of workers, 14% retired, 1% unemployed and 28% are housewives. 50% of patients admitted to educational hospitals from Kerman, 27% from affiliates in Kerman and 23% from other cities and 58% of patients admitted to private hospitals from Kerman, 37% from affiliates in Kerman and 5 % from other cities.

Also, 73% of patients hospitalized in educational hospitals and 56% of patients admitted to private hospitals had a his-

tory of heart disease. According to Table 1, the results showed that 10% of patients at educational hospitals in Kerman adequate health literacy And 48% of patients in private hospitals had adequate health literacy. As a result, there is a significant difference of health literacy between the two types of hospital (p -value $<0/0001$).

4. DISCUSSION

The findings of this study in relation to the level of health literacy of patients with cardiovascular disease showed that patients in four hospitals in Kerman That most of these people with inadequate health literacy, and only a few of them, had adequate health literacy. These findings are consistent with findings of previous studies such as The Tehrani Bani Hashemi et al (29), Reisi and co-workers (11), the Kohan, Ghasemi and Dodangeh (30), Ghanbari et al (31), Nekoeimoghadam and colleagues (32), Chew et al (28), Williams and colleagues (33), Jovic-Veranes et al (34) and Lee et al (35) is aligned. The findings showed a significant relationship between health literacy and education there. Tehrani Bani-Hashemi with these findings (29), Nekoeimoghadam and colleagues (32), Sun and colleagues (36), Fang and colleagues (37), Lee et al (35) And research findings that the center of America's health care strategy, is aligned. In other words, people with higher education, literacy and better health and information and better understand health instructions and more correct to use. But patients who have lower levels of education, have lower health literacy and to understand and use health information, use and drug use are difficult to understand medical instructions. Therefore, special attention is required and training. Results showed that health literacy marital status and age are inversely related in all four hospitals. So that those with less age, had higher literacy levels. Tehrani Bani-Hashemi with these findings and colleagues (29), ToL et al (38), Lee et al (35), Fang and colleagues (37), Sun and colleagues (36) and the center line is the US health care strategies. Younger people in understanding health information to older people have fewer issues of and as mentioned earlier, have more attention than older ones. The relevant authorities should take measures to provide appropriate health information in a way that is simple and understandable for the elderly, as they think. Possible result of these findings can be used to reduce the ability of elderly patients to achieve and keep track of updated content and information resources, reducing their ability to prompt for centers And focus on issues other than their illness and related issues, and more. It is notable that the level of education and income are somehow affecting each other. According to results too the relationship between education level and income, education level, there is a significant health and the item of gender, cardiovascular patients and Razie Feroz and Al-Zahra hospital (private) have a significant relationship However, patients in hospitals and Shafa and Afzalipour (training) had no significant relationship. In addition, the results obtained have shown that the level of health literacy is associated with income patients. This finding is consistent with the findings of Nekoeimoghadam antithetic and the findings of Lee et al (35), Sun and colleagues (36) and the Center for American health care strategy matches. The calculations associated with health literacy scores; average literacy scores cardiovascular health of patients admitted to

educational hospitals (Afzalipour and Shafa) Kerman in the calculation of 23.46 and at private hospitals (Al-Zahra and Razie Feroz) is equal to 37.17. In educational hospitals, health literacy, the average score in reading comprehension 18.31 times and 35.74 times respectively in private hospitals. The average overall score of health literacy patients in any of the private hospitals and educational hospitals in Kerman breakdown in health literacy mean score of 41.95 times and 72.91 times respectively in private hospitals.

5. CONCLUSION

Despite evidence of the importance of health literacy, many doctors and educators or are not aware of this issue or in dealing with patient, skills and confidence they need to approach the issue, Currently there are no quality standards for the design and manufacture of patient educational materials or training in health literacy are not doctors (39). In order to increase the education level of public health, not only use simple approaches such information may be helpful, But experience has shown that with the use of communication strategies and get help from experts in health education in order to plan and design effective training programs In this regard, tailored to the target groups and taking into account the level of their abilities and skills, chose the best educational approaches To better and further increase health literacy is a matter of vital step taken to improve the ability of people among us. The results showed that most patients had inadequate and border health literacy have been. Therefore, these patients to understand and to use by physician and other health information they need additional medical staff and need more time to communicate with doctors and nurse and business information easier and understandable language, allocate. The officials and health care providers should be so, and given more time to understand medical instructions to allocate these patients. Thus, health literacy leading to empowerment of people in utilizing information and instructions related to health. Since the academic record directly and significantly related to their health literacy, It is essential to education and literacy in the community, especially in the field of health information, was significantly greater than before. Also, because according to the findings of this study, the relationship between educational and private hospitals, health literacy and gender differences were reported, It can be said of health information and how men and women differ little, but both must be addressed by relevant authorities in this regard are. Health plans, preparation of simple educational system and understanding, more time and having conversations with physicians and medical staff with patients slower speeds, including ways to help patients with low health literacy and improve their health literacy is. The results of this study emphasize the importance of health awareness among the people, especially patients is emphasized. In general, collaboration with other sectors such as mass media Health care system should not only comprehensive program for improving the health literacy of people have, but for people with low literacy, educational media simple and understandable produce. However, in the long term due to improving literacy levels in society are expected to reduce the problems caused by inadequate health literacy.

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