Relationship between health literacy and lifestyle in patients with heart failure

ABSTRACT

Background and Objective: Cardiac failure is a chronic and costly disease that healthy lifestyle is effective in preventing it, and health literacy is also needed to improve their self-care. The purpose of this study was to determine the relationship between health literacy and lifestyle in patients with heart failure hospitalized in Zahedan.

Materials and Methods: This descriptive-analytical study was performed on 180 patients with heart failure hospitalized in Zahedan in 1396. Samples were selected using simple random sampling. Data were collected using a questionnaire.

Results: The average level of health literacy level was 22.7 (out of 43) with a standard deviation of 6.6. 40% had inadequate health literacy, 45% had a moderate level of education, and 15% had an adequate and desirable level of literacy. The mean score of lifestyle was 12.28 and the standard deviation was 6.9 (out of 245), which was more than average. According to the Pearson correlation coefficient, there was a direct and statistically significant relationship between health literacy and lifestyle (p = 0.02, r = 0.51).

Conclusion: The findings of this study showed that patients with heart failure experienced a healthier lifestyle with increasing health literacy, and although they had not enough health literacy, their healthy lifestyle was above average.

Keywords: Health literacy, lifestyle, heart failure

Introduction

Heart failure is a common and chronic disease that influences on the figure of public health (1, 2). In the United States, there are about 5.7 million people with heart failure whose annual cost of treatment is $ 31 billion (3, 4). In Iran, this disease is one of the main causes of disability and death (5-5). Although heart failure disease diagnostic and treatment methods have been improved nowadays, mortality rates have not changed(6) and hospitalization is still common (9, 8). It is important for patients to take part in self-care in order to avoid poor outcomes because heart failure management is complex and requires multiple skills (10).

Health literacy is the degree that enables individuals to access, process, and understand the information and basic health services and needed to make healthy choices (11). Studies conducted show low levels of health literacy in individuals, so that over 90 million people living in developed countries, such as the United States, have a limited literacy (12). In Maurice’s research on hospitalized patients, 60% of patients had limited health literacy (13). Also, in a study in 5 provinces of Iran, 28.1% of people had adequate health literacy, 15.3% had border health literacy and 56.6% had inadequate health literacy (14).

Many researches have proven the relationship between low level of health literacy and hospitalization, more use of emergency care, less ability to use drugs, less ability to interpret labels and health messages, poor public health status and higher mortality (15). Patients with inadequate health literacy do not adhere to drug therapy and do not have self-sufficiency in their care behaviors (17, 16). Therefore, these patients may use more health care services, such as referring hospitals and emergency department of the hospital (18), and therefore, they suffer more medical expenses (19). Studies show that patients with inadequate health literacy are twice as likely to be admitted to the hospital as those who have a high level of literacy (21, 20). Low health literacy is a public health issue that leads to a social slump and potentially reinforces existing health inequalities (22).

Unhealthy lifestyle is one of the most effective factors in creating chronic diseases including as blood pressure and cardiovascular diseases (23). There is a lot of evidence that show people who living with a healthy lifestyle have significantly reduced the incidence of cardiovascular disease (24-26). Several research showed that promoting healthy lifestyle behaviors lead to improving cardiovascular health such as cigarette contraindication, avoiding obesity, and regular physical activity and healthy diet (28,27). Studies showed that poor health literacy significantly associated with mortality (30, 29), hospitalization (32, 31), and recurrence of heart failure (33) among patients with heart failure. Further, increased age, low level of education, poor social and economic status, and the number of illnesses are also associated with health literacy. Therefore, inadequate health literacy is an important factor may lead to poor physical functioning among patients with heart disease. Increasing health literacy also reduces both quality of life and the risk of heart attacks (34). Health promotion was higher among educated people between 2003 and 2008, and people with low education had five times unhealthier behaviors than others, which increased their adverse health outcomes (35).

A study emphasizing that genetic and lifestyle factors are associated with increasing
or decreasing the risk of heart disease concludes that among high genetic risk participants, a desirable lifestyle has encountered a 50% reduction in cardiac disease (36). Other evidence suggests that inertia, stressful life, obesity and inappropriate nutrition were also other important factors that affecting heart disease patients (37).

Therefore, considering the importance of healthy lifestyle and health literacy and their effect on promoting individual’s health, (38) and in view of the development of cardiovascular disease in Iran and the world (38), this study has been taken place to determine the relationship between health literacy and quality of lifestyle in patients with heart failure hospitalized in Zahedan.

**Materials and Methods**

The present study is a descriptive-analytic study that was performed on 180 patients with heart failure hospitalized in Zahedan (Ali ibn Abi Talib Hospital and Khatam Al-Anbia Hospital) in 2017. The inclusion criteria were: having heart failure, passing at least 4 months from the diagnosis of the disease, patients admitted to the CCU post-CCU section, having at least 25 years of age, lack of mental and perceptual disorders, having speech power, conscious satisfaction and having appropriate physical conditions to answer questions. Exclusion criteria included: severely ill patients, patients with a diagnosis of cognitive problems or functional disability, the patient’s unwillingness to participate in the study.

The sampling method was census-based. In this study, all patients with heart failure in the investigated hospitals (Ali ibn Abi Talib Hospital and Khatam al-Anbia Hospital, University of Medical Sciences of Zahedan) involved in the study.

In this research, data collection tools consisted of two questionnaires: The first questionnaire was TFOHLA health literacy questionnaire, which included two sections; the first part was related to demographic information such as age, gender, marital status, education level, occupation, economic situation, associated underlying diseases, duration of the illness and the source of their knowledge about the disease health literacy. The second part of the questionnaire included questions about health literacy, which included two parts: 1- reading comprehension skills (including 33 questions and the score for each question was zero or 1, the total score of this section was from 0 to 33). 2) Practical Health Literacy Test in Adults (including 10 questions and the score for each question was zero or 1, with a total score of 0 to 10).

The content validity method was used to determine the validity of the questionnaire. To confirm the validity, the questionnaire was provided to 8 different specialists including internal medicine specialists, cardiologists and health education specialists whose validity was confirmed. To determine the reliability of the instrument, a post hoc method was used. In this questionnaire, Cronbach’s alpha coefficient was 0.8, which indicates the acceptable reliability of the questions.

The second questionnaire was the Health Promoting Lifestyle Questionnaire (HPLP). The measurement scale of the questions is based on Likert scale in 5 categories. The questionnaire consisted of 49 items and each item ranked 1 to 5. The range of health promotion lifestyle score was between 49 and 245.

In this study, the collected data were analyzed using Pearson correlation coefficient, one way ANOVA and T-Test. The software
Relationship between health literacy and lifestyle in patients with heart failure

used was SPSS version 19 and the significance level was considered to be 0.05

Findings
In this study, 58% of participants (105 respondents) were male and others were female. The mean and standard deviation of participants were 57.5 ± 8.5. In this study, 53% of respondents (95 people) were illiterate and 58% (105 people) were unemployed. Our results showed that the patient have received their information regarding heart failure by different sources including physicians (60%), friends and relatives (20%), TV (15%) and internet (5%). The duration of the disease for 20% of participants (18 cases) was under one year, 1 to 5 years for 50% (45 cases), and 30% (27 cases) was over 5 years for 30% of patient (27 cases). Moreover, 30% of participants (27 people) were unfavorable, 50% (45 people) were moderate and 20% (36 people) were desirable in terms of economic status.

Based on the results of this study, the mean score of health literacy level was 22.7 ±6.6(out of 43 score). Also, 40% of respondents (72 people) had inadequate health literacy, 45% (81 people) had a moderate level of education and 15% (27 persons) had a satisfactory level of education and literacy. The total score of health literacy was 22.7, which the maximum and minimum of health literacy score was calculated 43 and 14 in the studied statistical society. In total, 40% of individuals (72 people) in this study had inadequate and borderline literacy levels (Table 1). The results of this study showed that health literacy was significantly associated with the age, sex, level of education, occupation (Table 2), so that the level of adequate health literacy was higher for older people. According to Pearson correlation test, with increasing age among patients with heart failure, the level of health literacy also increased.

The result of this study demonstrated that the average lifestyle score was 128.8 and the standard deviation was 6.9 (out of 245), which was more than average. A maximum and minimum score was 141 and 116. Based on Pearson correlation coefficient, there was a direct and statistically significant relationship between health literacy and lifestyle (r = 0.51, p = 0.02), that means that lifestyle promoted with increasing health literacy (Table 3).

Discussion and Conclusion
Based on the findings, it was found that im-
proving the health literacy of patients with heart failure promoted the healthy lifestyle of these patients. In other words, those with higher health literacy would choose more healthy ways of life and better caring of themselves. This finding is consistent with the findings of a research states that heart failure patients with lower levels of health literacy tend to be weaker in terms of self-care (39). Another study also states that the literacy affects all aspects of health behavior (13). High levels of health literacy in patients with heart failure seem to enhance their self-efficacy and self-confidence, and they choose healthy lifestyles that include appropriate healthy diet, having physical activity, smoking contraindication, and other heart health promoting behaviors.

The findings also demonstrated that approximately 40% of studied patients with heart failure had inadequate and borderline health literacy levels. The research findings of Sarazangi et al., also indicate a low level of health literacy in patients with heart failure (40). In the Lee study on the Korean-Chinese adults, the level of health literacy was 68.7%, which was relatively high. (41). In the study also done by Honorary et al., on health connectors, only 23.1% of individuals had the adequate level of health literacy (42). Regarding this finding, it seems that low health literacy in this group of patients due to the lack of education to an effective patient which is associated with chronic disease and burnout caused by illness or indifference to yourself and disease leads individuals to disregard healthy lifestyles.

The results of this study indicated that there is a significant relationship between the levels of health literacy with age, so that the level of health literacy is higher among older patients with heart failure. This finding is consistent with the results of studies that believe the level of health literacy increases as a result of increasing an age of understanding and reading comprehension (43, 42). With this finding, it can be argued that patients with heart failure are becoming more sensitive to health due to increasing their health literacy, and because they see themselves exposed to various illnesses, they are moving toward learning about health issues and health knowledge.

In this study, there was a significant relationship between health literacy and individuals' education. Various health literacy studies have also shown that higher education level promotes individuals' health literacy. For example, in Eftekhari et al. (41), Chow et al., there was a significant relationship between education level and health literacy and increasing the education level has increased the health literacy level (44).

The result of this study indicated that the lifestyle of patients with heart failure was more than average extent. A study to support this finding was not found, but in explaining this finding, it should be noted that patients with heart failure fear to become worse or disable due to their illness, usually going toward a healthy lifestyle with respect to diet, having physical activity, cigarette contradiction, and other healthy behaviors go along with a healthy lifestyle.

The findings of this study demonstrated that the source of patients' knowledge about heart failure was physicians, friends and acquaintances, television, and eventually the Internet. Abbas Zadeh et al indicated that physicians are the most important source of information, but at a later stage, the interne, friendship and relatives are placed (42).
finding showed that patients trust on physician’s knowledge regarding their illness, therefore, they prefer to use physicians as the first source for getting relevant information face-to-face.

Researchers have concluded that inadequate health literacy has a major impact on lifestyle among patient with heart failure. Patient with inadequate awareness may choose a destructive way of life that ultimately causes their heart is endangered and move faster toward the consequences of heart disease. Therefore, since health literacy promote the quality of life and self-care behaviors; different methods should be used to educate these patients. Training to a patient face to face or using a movie and poster is one of the methods proposed by researchers in this article. Of course, for the prevention of heart diseases, healthy lifestyle education is recommended for the general public purposefully and consistently.

References
19. Harris J, Springett J, Booth A, Campbell F, Thompson...