



Research Article

The Effect of Self-Care Education Based on Orem's Model on Self-Efficacy of Patients with Beta Thalassemia Major

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Abstract

Background: self-efficacy is the main factor in human behavior showing the extent of an individual's efforts in performing an activity. Strengthening self-efficacy empowers the person to follow and adhere to treatment. Improving self-care behaviors is of the requirements of strengthening self-efficacy behaviors. Thus, the present study was conducted to determine the effect of self-care education based on Orem's model on self-efficacy in patients with beta thalassemia major.

Methods: In this clinical trial, 60 patients with thalassemia who were admitted to Razi Hospital of Saravan were randomly divided into control and intervention groups. Demographic and Sherer's self-efficacy questionnaires were used to collect data. The intervention group was educated for 5 sessions. The control group received routine interventions. The questionnaires were completed again after a month, and data were analyzed using SPSS23.

Results: The mean and standard deviation of self-efficacy scores before intervention in intervention and control groups were 42.86 ± 3.24 and 42.80 ± 3.86 , respectively, and after intervention 49.16 ± 8.17 and 43.20 ± 4.84 , respectively. Statistical variance test with repeated measures showed significant statistical differences between the two groups before and after intervention ($p=0.01$).

Conclusion: The results showed that the use of Orem's self-care model increased the level of self-care behaviors in these patients. Thus, using Orem's model is recommended as an effective way to promote self-efficacy of patients.

Keywords: Self-care; Orem model; Self-efficacy; Beta thalassemia major

Introduction

Thalassemia is one of the commonest hereditary blood disorders in the world and of the most serious health problems. Nearly 200000 people in the world suffer from major thalassemia with another sixty thousand added on an annual basis [1]. The number of patients with thalassemia in Iran is estimated to be 26000 people with 800 people added annually [2]. The highest prevalence of thalassemia in Iran is in Mazandaran, Hormozgan, Khuzestan, Guilan, Fars and Sistan and Baluchestan [3]. The mechanism of the disease is based on three factors - ineffective hematopoiesis, hemolysis and anemia - and the main treatment is blood transfusion. The goal of blood transfusion in thalassemic patients is to keep hemoglobin between 9.5 and 10.5 and to prevent early complications of the disease, such as delayed growth and puberty, liver and spleen enlargement and facial abnormalities [4, 5]. In spite of the improvement in supportive care and life span of these patients, they need lifelong care given the chronic nature of the disease [6,7].

Thalassemia affects the emotional conditions, daily activities, family experiences, and job capabilities of the patients and their caregivers due to its complicated and lifelong treatment protocols. This results in increased psychological problems, such as depression, reduction of individual potential, and self-efficacy in individuals [8, 9]. Bandura considers self-efficacy as the vital factor in human behavior, the effort of an individual performing a job, and the level of resistance in the face of barriers and bad experiences [9].

Increase in self-efficacy brings about improvements in behaviors such as drug use, stress management, exercise, and heeding the prescribed diet, and decreased self-efficacy leads to increase in depression and reduction in self-care behaviors in [10,11]. Among the effective factors in the development of self-care behaviors is self-efficacy [12]. Self-care is the decision and action that a person take to deal with a health problem or to improve his/ her health. Effective factors in self-care are prevention information, basic information about the disease, and information on better use of available equipment and services and skills needed for all [13].

Among nursing missions are using nursing patterns to improve quality and ultimately to improve the quality of life of patients. One of the important models based on the individuals' capabilities and their needs for self-care is Orem's self-care model [14]. The focus of self-care model of Orem is on the ability of the individuals to take care of them, and the role of the nurse in identifying self-care defects, by identifying which the nurse can respond [15]. Orem's model involves the patient in self-care activities; and according to Orem's self-care theory, self-care in chronic illness is an important part of the treatment, which is on the part of the patient for his/her own health care [16].

Given the chronic nature of the disease and the importance of self-efficacy in empowering these patients and the use of Orem's self-care model as a way to involve the patient in their care, the purpose of this study was to determine the effect of self-care education based on Orem's model on self-efficacy of patients with beta thalassemia major in Saravan in 2017.

Methods

This semi-experimental study was carried out with two groups in 2017 in thalassemia ward of Razi Hospital of Saravan. The population consisted of the patients with beta thalassemia major.

The inclusion criteria were patients with thalassemia major with medical files in the thalassemia ward of Razi Hospital, being 13 to 17 years old, having literacy, willingness to attend self-care classes, and completing the relevant form. Exclusion criteria were patients' death, travel, hospitalization during intervention, lack of participation in self-care educational classes, lack of willingness to participate in the study, and inability to complete the questionnaire.

According to the study by Habibzadeh et al., the sample size was considered 30 in each group [51]. They were randomly divided into control and intervention groups after they were selected as qualified individuals. Demographic [age, gender, education, residence, economic status, number of transfusions per month, and parental relationship] and Sherer's self-efficacy questionnaires were used to collect the data. The study used Sherer's 17-question scale. The highest score obtained on this scale is 85, and the lowest score is 17. Sherer et al. reported Cronbach alpha of the questionnaire 0.86 [24]. Bahadori Khosroshahi et al. reported its Cronbach Alpha 0.83 [25].

Questionnaires were completed before the intervention and one month after it. In the intervention group, self-care needs based on Orem's self-care model were evaluated and Sherer's general self-efficacy questionnaire was completed. After the care needs of the participants were determining, in the second stage, nursing goals

tailored to the needs of the patients were specified that in the present study were the patients who were in the nursing educational-support system. The self-care program was determined based on the specified cases and performed based on Orem's self-care model tailored to the needs of the subjects.

Initially, in two sessions, group education was conducted by the researcher considering the abilities of the care seekers in groups of 15 for 25-30 minutes, and the intervention group received self-care education from the researcher. The contents of the education sessions in the two sessions were as follows:

The first session

Thalassemia (the definition and description of the disease, the stages of disease and symptoms, and the process of the disease) was briefly described to patients.

The second session

In the second session, along reviewing the content of the first session, the therapeutic methods and complications of treatment and drug complications were discussed with the thalassemic patients.

Variable	Control Source	Sum of Squares	Degree of Freedom	Mean Squares	F Value	Sig .	Eta Coefficient
Self-efficacy	Post-test of error	126.56	1	126.56	6.93	0.01	0.1
		1040.16	57	18.24			

Table 1: Statistical summary of variance with repeated measures of self-efficacy score before and after intervention.

Then, based on care seekers' needs and self-care defects - extracted from the pre-intervention need-assessment form based on Orem's model - three group sessions were provided to care seekers for 25-30 minutes as lecture using PowerPoint and educational videos. At the end, the educational content was delivered to the patients as a booklet and a CD containing educational videos along with photos and educational imagery and monitoring was done for one month.

During this one month, patients were visited by the researcher every two weeks, self-care cases were reminded to them and their questions were answered. Another way to communicate with patients during this one month was by telephone, and the patients could contact in case of a question or ambiguity with the phone number the researcher provided to with. After a month, Sherer's self-care and self-efficacy questionnaires were completed again. No specific actions were taken for the control group during the study, and they just received the routine care. Data were analyzed using spss23 after collection (Table 1).

Results

The results indicated that 60% of the participants were female and 40% were male. The mean age in the intervention group was 13.66 ± 2.02 and in the control group 13.44 ± 1.77. Independent t-test and Chi-square test showed no significant differences between the two groups considering age, gender, education, economic status, place of residence and family relationship (p≥0.05).

The mean and standard deviation of self-efficacy scores before intervention in the intervention and control groups were 42.86 ± 3.24 and 42.80 ± 3.86, respectively. Self-efficacy scores after intervention in intervention and control groups were 49.16 ± 8.17 and 43.20 ± 4.84, respectively. Statistical variance test with repeated measures showed significant statistical differences between the two groups before and after intervention (p=0.01, (1.57) =6.93). The results are presented in the statistical Table 2.

Discussion

The present study was conducted to examine the effect of self-care education based on Orem's model on self-efficacy of patients with beta thalassemia major in Saravan. Statistical variance test with repeated measures showed significant statistical differences in increase of self-efficacy behaviors before and after intervention (p=0.01).

Self-efficacy activities increase self-awareness, self-confidence and development of self-efficacy in the individual, and this creates a satisfactory interaction between self-care and improvement of job productivity and social interactions [17]. Moreover, measuring it can predict the intention of the individuals to change it [18]. In a study by Habibzadeh et al., which was to determine the effect of using Orem's self-care model on the self-efficacy of hemodialysis patients, the results showed that considering the dependence of hemodialysis patients on care services, recognizing self-care needs based on nursing theories and planning will help patient's adaptability and increase self-care activities [19].

Variable		Intervention group	Control group	Statistical results of Chi-square test
		Frequency (percent)	Frequency (percent)	
Gender	Man	15 (50)	9 (30)	p=0.11
	Female	15 (50)	21 (70)	
Education	Elementary	8 (26.7)	10 (33.3)	p=0.47
	Guidance	13 (43.3)	15 (50)	
	Cycle	9 (30)	5 (16.7)	
Economic status	Weak	8 (26.7)	16 (53.3)	
	Average	17 (56.7)	11 (36.7)	p= 0.1
	Good	5 (16.7)	3 (10)	
Parents relative relationship	Have	25 (83.3)	17 (56.7)	
	Do not have	5 (16.7)	11 (36.7)	p=0.05
Place of residence	City	10 (33.33)	17 (56.7)	
	The suburbs	9 (30)	8 (26.7)	p=0.12
	Village	11 (36.7)	5 (16.7)	

Table 2: Qualitative demographic characteristics of intervention and control groups.

In the study by Ahmadi et al. to determine the effect of self-management based education on self-efficacy of these patients, the results showed an improvement in self-efficacy in these patients and using management programs was recommended as an effective factor in promoting self-efficacy behaviors [20].

In the study by Poodineh Moghadam et al., which was to study the effect of using home-based care education on patients' self-efficacy, home-based care education was recommended as an effective way to promote self-efficacy in patients [21].

The theory of self-efficacy is a scientific strategy that generates the potential for behavioral change by increasing self-confidence in one's abilities. Most people with chronic illness tend to believe that lifestyle changes have a positive effect on their health. Although some of these obstacles are removed by the professional care team, some patients are incapable of achieving this due to miscellaneous reasons. Patients with higher self-care are better at self-care [22]. Various studies conducted on the relationship between self-efficacy and self-care showed that self-efficacy behaviors education, self-care for empowerment of patients, and using self-efficacy are important factors in identifying self-care behaviors in patients [23,24]. Thus, the use of nursing theories with the aim of education and promoting self-efficacy in patients is essential considering the nurses' educational roles in empowerment of patients. The results of this study, which dealt with studying self-efficacy education based on Orem's model, confirmed that the use of Orem's model as one of the most comprehensive clinical guidelines in patient care can be of unparalleled relief to patients.

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