

# Effect of Self-Care Ability and Life Satisfaction on the Levels of Hope in Elderly People

## Yaşlı Bireylerde Özbakım Gücü ve Yaşam Doyumunun Umud Düzeylerine Etkisi

Behice ERCİ,<sup>1</sup> Dilek YILMAZ,<sup>2</sup> Funda BUDAK<sup>3</sup>

### SUMMARY

**Objectives:** This study aimed to examine the effect of self-care ability and life satisfaction on the levels of hope in elderly people.

**Methods:** This study was conducted at three family health care centers in Malatya between November 20, 2014, and January 1, 2015. The study population consisted of 4181 people older than 65 years of age who were selected from 3 out of 10 family health care centers in Malatya, which were determined by lot. The sample size was determined to be 320 elderly people with 0.05 margin of error at 0.95 confidence interval, and each family health care center was accepted as a cluster. Çarmuzu Family Healthcare Center hosted 1653 elderly people, Özalper 1939 elderly people, and Tevfik Ünsalan 589 elderly people. Population weighting was performed for these clusters, and 127 elderly people were selected from Çarmuzu, 148 from Özalper, and 45 from Tevfik Ünsalan using the simple random sampling method. The data were collected using introductory information form, Self-Care Ability Scale, Life Satisfaction Scale, and Hope Scale.

**Results:** A statistically positive relationship was observed between self-care ability and life satisfaction, and self-care ability and hope. However, no statistically significant relationship was found between life satisfaction and hope. This indicated that the elderly people with good self-care ability looked to the future with hope.

**Conclusion:** Elderly people needed the help of other people in meeting their daily self-care needs. Social support and educational programs should be developed to promote caring of the elderly people at home.

**Keywords:** Elderly people; level of hope; life satisfaction; self-care.

### ÖZET

**Amaç:** Bu araştırma, yaşlı bireylerde özbakım gücü ve yaşam doyumunun umut düzeylerine etkisini incelemek amacıyla tanımlayıcı olarak yapılmıştır.

**Gereç ve Yöntem:** Araştırma 20 Kasım 2014-01 Ocak 2015 tarihleri arasında Malatya ilinde bulunan 3 Aile Sağlığı Merkezinde gerçekleştirilmiştir. Araştırmanın evrenini, Malatya ilinde bulunan 10 Aile Sağlığı Merkezi arasından çekilen kura ile belirlenen 3 Aile Sağlığı Merkezinden 65 yaş ve üzeri 4181 kişi oluşturmuştur. Örneklem büyüklüğü yapılan güç analizi ile 0.05 yanılma düzeyi, 0.95 güven aralığında 320 yaşlı birey olarak belirlenmiş ve her bir ASM birimi birer küme kabul edilmiştir. Çarmuzu ASM'de 1653 yaşlı birey, Özalper ASM'de 1939 yaşlı birey ve Tevfik Ünsalan ASM'de 589 yaşlı birey olduğu belirlenmiştir. Bu kümelelerin evren ağırlıklandırılmaları yapılarak Çarmuzu ASM'den 127, Özalper ASM'den 148 ve Tevfik Ünsalan ASM'den 45 yaşlı birey olasılıklı örnekleme yöntemlerinden basit rastgele örnekleme yöntemi ile seçilmiştir. Verilerin toplanmasında tanıtıcı bilgi formu, Özbakım Gücü Ölçeği, Yaşam Doyumu Ölçeği ve Umud Ölçeği kullanılmıştır.

**Bulgular:** Özbakım Gücü ile Yaşam Doyumu arasında ve Özbakım Gücü ile Umud arasında istatistiksel olarak pozitif ilişki olduğu bulunmuştur ( $p < 0.05$ ). Yaşam Doyumu ile Umud arasında ise istatistiksel olarak ilişki olmadığı saptanmıştır ( $p > 0.05$ ). Özbakım gücü yüksek olan yaşlı bireylerin geleceğe umutla baktığı saptanmıştır.

**Sonuç:** Yaşlıların günlük ihtiyaçlarını karşılamada ve özbakımında başkalarına ihtiyaç duyduğu belirlenmiştir. Yaşlıların ev ortamında bakılmasını teşvik için topluma yönelik destek ve eğitim programlarının yapılması gerektiği önerilebilir.

**Anahtar sözcükler:** Yaşlı; umut düzeyi; yaşam doyumunu; özbakım.

### Introduction

Aging brings not only physical changes but also psycho-

logical changes. People aged 65 years or older account for 10% of the global population, and this figure is expected to reach beyond 16% in 2050. Turkey is expected to host approximately 16 million of people aged 65 years or older in 2050.<sup>[1]</sup>

Self-care is defined as fulfilling self-responsibilities for improving the care and health, preventing impairment of health, and maintaining psychological well-being.<sup>[2]</sup> Physical and mental balance is disturbed with aging, highlighting the needs of self-care and receiving help from others for elderly persons.<sup>[3]</sup> Self-care deficiency may occur if people feel themselves insignificant and think that they have lost their functions, thereby adversely affecting life satisfaction.<sup>[4]</sup> Life satisfaction is defined as the goals people desire and achieve.

<sup>1</sup>Department of Nursing, Malatya State Hospital, Malatya, Turkey

<sup>2</sup>Department of Psychiatric Nursing, İnönü University Health Sciences Faculty, Malatya, Turkey

<sup>3</sup>Department of Health Public Nursing, İnönü University Health Sciences Faculty, Malatya, Turkey

**Correspondence (İletişim):** Dr. Funda BUDAK.  
**e-mail (e-posta):** funda-kavak@hotmail.com

**Psikiyatri Hemşireliği Dergisi 2017;8(2):72-76**  
**Journal of Psychiatric Nursing 2017;8(2):72-76**

**Doi:** 10.14744/phd.2017.52714

**Submitted (Geliş tarihi):** 28.07.2016 **Accepted (Kabul tarihi):** 29.06.2017

Self-care ability and life satisfaction constantly interact with each other and many other factors in life.

Desperation is defined as negative expectations and feelings of failure in achieving a goal.<sup>[5]</sup> People start evaluating their lives upon the idea of death when they are old. If elderly people have not lived a good life, had negative experiences, and experienced depression, desperation may occur. Number of plans and actions for the future decrease with aging, and elderly people start becoming more desperate as death-related ideas become common. Elderly people who are not as healthy as they were, cannot perform the activities as earlier, are deprived of an efficient job, feel closer to death, and may feel that they are incapable, leading to desperation.<sup>[6]</sup> Aydın and İşleyen conducted a study on the old people in senior centers and demonstrated that the level of desperation was high.<sup>[6]</sup> Thus, studying the terms related to the elderly people are important for ensuring that elderly people live better at old age, age healthily, and have positive expectations toward the future.<sup>[7]</sup>

The studies in this field are limited in Turkey. Tel et al. performed a study on 90 elderly people and found that self-care ability degraded as people became older.<sup>[8]</sup> Özer reported that elderly people living at senior centers had better self-care ability but lower life satisfaction compared with those living in their homes.<sup>[9]</sup> Altay et al. conducted a study on the elderly people at senior centers and observed that life satisfaction improved in parallel with self-care ability.<sup>[10]</sup>

Since elderly persons' self-care ability, life satisfaction, and desperation are related to one another, knowing the factors that affect life satisfaction, self-care ability, and desperation is significant to ensure that elderly people display attitudes to preserve and improve their health and be active and happy in the society.

This study was conducted to determine the effect of self-care ability and life satisfaction on the levels of hope in elderly people.

## Materials and Method

This was a descriptive study. It was conducted at three family health care centers (FHC) in Malatya between September 1, 2014, and January 1, 2015. The study population consisted of 4181 people older than 65 years of age who were selected from 3 FHCs out of 10 in Malatya, which were determined by lot. The sample size was determined to be 320 elderly people with 0.05 error level at 0.95 confidence interval, and each FHC was accepted as a cluster. A total of 3637 elderly people was selected from 3 FHCs using the simple random sampling method. The exclusion criteria were failure to establish communication and suffering from dementia, Alzheimer, and hearing-related problems. Introductory in-

formation form prepared by the researcher, Self-Care Ability Scale, Life Satisfaction Scale, and Hope Scale were used to collect the data. The data were collected interviewing each of the elderly people and asking questions to them. An interview lasted approximately 15–20 minutes.

## Data Collection Tools

### Introductory Information Form

This form consisted of six questions (related to age, gender, education, marital status, number of children, and health status), which were determined after the literature was reviewed.<sup>[8,9]</sup>

### Self-Care Ability Scale

The validity and reliability study of this form, which was developed by Kearney and Fleischer in 1979 to determine the self-care skills and ability, was conducted by Nahçıvan in 1993.<sup>[10]</sup> The scale, which focused on evaluating whether people performed the self-care actions, consisted of 35 items. Each item was scored with points ranging from 0 and 4, and the evaluation was performed in relation to the answers that were provided on a five-grade answer option: 0 was assigned to Does not define me at all, 1 was assigned to Does not define me, 2 was assigned to I do not have an idea, 3 was assigned to Defines me slightly, and 4 was assigned to Defines me. Eight items in the scale that was adapted to Turkish were evaluated on a negative-scoring basis (3, 6, 9, 13, 19, 22, 26, and 31), and the scoring was reversed. The lowest score was 35, whereas the highest was 140. The highest score indicated the greatest self-care ability. The Cronbach's alpha coefficient was found to be 0.74 for the Self-Care Ability Scale.

### Life Satisfaction Scale

This scale was developed by Diener et al. to determine the life satisfaction level of the people. It was a 7-point Likert-type scale that was adapted to Turkish by Köker.<sup>[11,12]</sup> Each item in the scale was scored with points ranging from 1 and 7, and the total score ranged between 5 and 35. A score of 7 points or lower indicated a low level of life satisfaction, 13 or higher meant a high level of life satisfaction, and the scores ranging between 8 and 12 points suggested a moderate level of life satisfaction. The Cronbach's alpha coefficient was found to be 0.764 for this scale.

### Hope Scale

This scale was developed by Snyder et al. in 1996, and the Turkish validity and reliability study was performed by Akman et al.<sup>[13]</sup>

The scale consisted of 12 items. Items included the direct sentences, and these items equally (four each) included statements related to "pathway" and "agency" dimensions. One item in the dimensions had past-related statements, two in-

cluded the present-related statements, and the other one had future-related statements. Moreover, four items consisted of complementary statements that were not related to hope. The statements reflecting the “pathway” and “agency” dimension of the hope included positive, and the complementary items consisted of negative items. This was a 4-point Likert-type scale. The scores assigned to the complementary items (3, 5, 6, and 11) while scoring the scale were not considered, scores for other items were collected, and a single score was found for each person. The scores obtained from the scale were the indicators of hope level, and an increase in these scores was interpreted as an increase in the hope level.<sup>[14]</sup> The lowest score to be obtained was 8, whereas the highest was 32. The Cronbach’s alpha coefficient was found to be 0.197 for this scale.

### Data Analysis

Percentage distribution, arithmetic mean values, Mann-Whitney U test, Kruskal-Wallis test, and variance analysis were used to analyze the data.

### Ethical Principles of the Study

Written permissions were obtained from the FHCs and Malatya Ethics Committee for Clinical Studies before the study was conducted. Before using the data collection tools, the objective was stated to the elderly people, and their verbal permissions were obtained. They were told that their information would be kept confidential and used for the study-related purposes, and they had the right to leave the study whenever they wished.

“Informed Consent Principle,” “Volunteering Principle,” and “Preserving the Privacy Principle” were fulfilled because using the human concept required conserving the individual rights.

### Results

A total of 320 elderly people participated in this study, which focused on the effect of self-care ability and life satisfaction on hope levels of the elderly people. The distribution of participants by their demographic characteristics is presented in Table 1.

More than half of the participants were 65–69 years old, and 35.3% of them were literate. Of the participants, 60.9% were single, and 31.8% were 70–74 years old. Further, 41.3% of them had three or more children, 29% had no children, and 44.7% had good health status.

Table 2 indicates the comparison between self-care ability, life satisfaction and hope, and demographic characteristics.

The comparison between self-care ability and demographic characteristics indicated a statistically significant difference between gender, age, educational status, number of

**Table 1.** Demographic characteristics of elderly people

Introductory characteristics	n	%
Gender		
Female	167	52.20
Male	153	47.80
Age groups		
65-69 (y)	174	54.40
70-74 (y)	102	31.80
75-79 (y)	44	13.80
Educational status		
Illiterate	75	23.40
Literate	113	35.30
Primary-secondary School	76	23.80
High school	32	10.00
College	24	7.50
Marital status		
Married	125	39.10
Single	195	60.90
Number of children		
No children	93	29.00
1-2	95	29.70
3 or more	132	41.30
Health status		
Poor	38	11.90
Moderate	139	43.40
Good	143	44.70
Total	320	100.00

children, perception toward the health status, and self-care ability ( $p < 0.05$ ). The comparison between life satisfaction and demographic characteristics indicated a statistically significant difference between age, educational status, number of children, perception toward the health status, and life satisfaction ( $p < 0.05$ ). The comparison between hope and demographic characteristics indicated a statistically significant difference between age, educational status, number of children, and perception toward the health status, and hope ( $p < 0.05$ ).

Table 3 indicates the relationship between self-care ability, life satisfaction, and hope scores. A positive and significant relationship was observed between self-care ability and life satisfaction, and self-care ability and hope ( $p < 0.05$ ). However, no statistically significant relationship was found between life satisfaction and hope ( $p > 0.05$ ).

### Discussion

The results were discussed in relation to the relevant literature.

A statistically significant difference was noted between self-care ability and gender. Males were found to have better self-care ability. In a study conducted by Altay et al., a statistically significant difference was observed between gender and self-care ability.<sup>[15]</sup> Similarly, in a study conducted by Puvill et al., a statistically significant difference was observed between gender and self-care ability.<sup>[16]</sup> Females were found to have better self-care ability. Females were keener on their care in their youth compared with males and performed their care-

**Table 2.** Comparison between demographic characteristics and mean scores on the Self-Care Ability, Life Satisfaction, and Hope Scales

		Self-Care Ability Scale	Life Satisfaction Scale	Hope Scale
Gender	Female	130.06±9.68	22.69±3.96	33.28±2.22
	Male	134.93±10.21	24.22±2.31	33.95±2.89
	Test value	MU=7672.	MU=11268.00	MU=11424.00
	Significance	p=0.001	p=0.065	p=0.095
Age groups	65-69 (y)	130.77±8.05	23.86±2.44	34.16±2.39
	70-74 (y)	134.55±9.13	23.49±4.27	34.14±2.64
	75-79 (y)	129.41±11.88	21.57±3.58	32.43±2.17
	Test value	KWx <sup>2</sup> =23.66	KWx <sup>2</sup> =15.32	KWx <sup>2</sup> =33.83
	Significance	p=0.001	p=0.001	p=0.001
Educational status	Illiterate	125.39±11.37	19.75±3.98	34.60±3.95
	Literate	133.24±11.20	23.45±2.18	33.45±1.95
	Primary-secondary School	136.30±6.47	25.71±1.37	33.04±1.75
	High school	135.56±5.96	25.66±2.16	32.19±1.85
	College	133.67±2.54	24.58±0.92	34.79±0.72
	Test value	KWx <sup>2</sup> =41.173	KWx <sup>2</sup> =116.56	KWx <sup>2</sup> =29.05
	Significance	p=0.001	p=0.001	p=0.001
Marital status	Married	131.82±10.01	23.82±2.25	33.34±2.63
	Single	134.01±9.82	23.43±3.92	33.87±2.88
	Test value	MU=1193.00	MU=1485.00	MU=1340.00
	Significance	p=0.109	p=0.0939	p=0.391
Number of children	No children	131.13±11.81	21.80±3.54	33.52±3.71
	1-2	135.05±8.33	23.62±4.06	34.94±0.88
	3 or more	131.36±9.95	24.43±2.00	32.69±1.97
	Test value	KWx <sup>2</sup> =8.55	KWx <sup>2</sup> =40.39	KWx <sup>2</sup> =56.87
	Significance	p=0.001	p=0.001	p=0.001
Health status perception	Poor	135.06±9.75	24.29±1.94	33.58±2.21
	Moderate	128.52±9.11	22.12±3.84	32.82±1.97
	Good	136.53±11.14	24.95±4.06	34.36±2.96
	Test value	KWx <sup>2</sup> =73.17	KWx <sup>2</sup> =27.76	KWx <sup>2</sup> =23.59
	Significance	p=0.001	p=0.001	p=0.001

related activities by themselves, explaining females' high level of self-care ability in their old age. No statistically significant difference was noted between life satisfaction and hope. In a study conducted by Özer, no statistically significant difference was observed between gender and life satisfaction.<sup>[17]</sup> The results indicated that gender did not affect life satisfaction and desperation in the old age. The results of other studies were similar to those of the present study. Factors that affected life satisfaction and desperation in the old age were the same for both genders, which might be the reason for the aforementioned outcome.

A statistically significant difference was observed between mean ages and self-care ability, life satisfaction, and hope. As people became older, the self-care ability, life satisfaction, and hope decreased. Softa et al. conducted a study

on elderly people and found that desperation worsened as people became older.<sup>[18]</sup> In a study conducted by Pinto et al., no statistically significant difference was found between age and life satisfaction.<sup>[19]</sup> Kahraman et al. performed a study on elderly people and demonstrated that people had worse life satisfaction as they aged.<sup>[20]</sup> Özer reported that life satisfaction got worse as people aged.<sup>[9]</sup> This might be because of elderly persons' failure to meet their needs, act independently, and have no plans.

A statistically significant difference was found between perception toward the health status and self-care ability, level of hope, and life satisfaction. Those who perceived the health status better had better self-care ability. Özer performed a study on elderly people living in senior centers and family environments and demonstrated that those who perceived

**Table 3.** Distribution of the relationship between Self-Care Ability Scale, Life Satisfaction Scale, and Hope Scale

		Self-Care Ability Scale	Life Satisfaction Scale	Hope Scale
Self-Care Ability Scale	r	1	0.689*	0.548*
Life Satisfaction Scale	r	0.689*	1	0.068
Hope Scale	r	0.548*	0.068	1

\*p<0.01.

their health status had better life satisfaction.<sup>[9]</sup> Kırdı ey al. conducted a study on elderly people and observed that those who perceived their health status better had better life satisfaction.<sup>[21]</sup> Elderly people who have health problems may have lower self-esteem and those who think that they cannot meet their own needs may be unhappy, adversely affecting life satisfaction.

A positive and significant difference was found between self-care ability and hope, and self-care ability and life satisfaction. However, no statistically significant difference was noted between life satisfaction and hope. Bakış and Çınar reported a positive relationship between life satisfaction and self-care ability of elderly people.<sup>[22]</sup> Ruchiwit demonstrated a positive relationship between self-care ability and hope in patients who are lost and lived alone.<sup>[23]</sup> Wang et al. noted that hope decreased as the self-care ability got worse in patients waiting for brain transplantation.<sup>[24]</sup> Buck et al. found a positive relationship between life satisfaction and self-care ability in patients with diabetes.<sup>[25]</sup> Elderly people may meet their self-care needs and enjoy the life better if they have hope for the future.

### Conclusion and Recommendations

More than half of the participants were females, and approximately half of the participants had good health status. No statistically significant difference was observed between self-care ability and marital status, life satisfaction and hope, and gender and marital status. However, a statistically significant difference was found between other demographic characteristics. Those who had better self-care ability had better life satisfaction and level of hope. This study recommends informing the nurses and other health care staff that provide care services to elderly people about the practices that positively affect the relationship between life satisfaction, hope, and self-care ability; generating policies to adapt the information to the nursing practices; generating plans to ensure that elderly people actively take part in their own self-care and the society; revising the periodical health controls since the elderly people are in the sensitive group; and informing the elderly people about the importance of these controls and preserving the health.

### References

- Mandıracıoğlu A. Dünyada ve Türkiye'de yaşlıların demografik özellikleri. *Ege Tıp Dergisi*, 2010;49:39-45.
- Chen IH, Chi MJ. Effects of self-care behaviors on medical utilization of the elderly with chronic diseases - A representative sample study. *Arch Gerontol Geriatr* 2015;60:478-85.
- Chan A, Matchar DB, Tsao MA, Harding S, et al. Self-Care for Older People (SCOPE): a cluster randomized controlled trial of self-care training and health outcomes in low-income elderly in Singapore. *Contemp Clin Trials* 2015;41:313-24.
- Ardahan M, Balyacı ÖE, Genç A. Yaşlıların algıladıkları aile desteğinin yaşam doyumlarına etkisi. *Ege Üniversitesi Hemşirelik Yüksek Okulu Halk Sağlığı Hemşireliği Dergisi* 2012;21:59-62.
- Özben Ş. Yaşlılarda umutsuzluk. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi* 2008;23:136-51.
- Aydın İ, İşleyen S. Huzurevinde kalan yaşlıların geleceğe yönelik beklentilerinin umutsuzluk düzeylerine etkisi. *Atatürk Üniversitesi Hemşirelik Yüksek Okulu Dergisi* 2004;7:19-25.
- Yıldırım TA, Altay B. Huzurevinde yaşayan yaşlıların geleceğe yönelik beklentilerinin özbakım gücü ve yaşam doyumuna etkisi. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi* 2016;5:16-24.
- Tel H, Hizmetli S, Yıldırım M. Osteoartritli yaşlılarda özbakım gücü ve yaşam kalitesi. *Türk Geriatri Dergisi* 2011;14:63-7.
- Özer M. Huzurevinde ve aile ortamında yaşayan yaşlılarda özbakım gücü ve yaşam doyumunun incelenmesi. [Yüksek Lisans Tezi] İzmir: Ege Üniversitesi Sağlık Bilimleri Enstitüsü, 2001.
- Altay B, Avcı İA. Huzurevinde yaşayan yaşlılarda özbakım gücü ve yaşam doyumunu arasındaki ilişki. *Dicle Tıp Dergisi* 2009;36:275-82.
- Naıcvan N. Sağlıklı gençlerde özbakım gücü ve aile ortamının etkisi. [Yüksek Lisans Tezi] İstanbul: İstanbul Üniversitesi Sağlık Bilimleri Enstitüsü Yüksek Lisans Tezi, 1993.
- Diener E, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. *Journal of Pers Assess* 1985;49:71-5.
- Köker S. Normal ve sorunlu ergenlerin yaşam doyumunu düzeylerinin karşılaştırılması. [Yüksek Lisans Tezi] Ankara: Ankara Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Tezi, 1991.
- Snyder CR, Harris C, Anderson JR, Holleran SA, et al. The will and the ways: development and validation of an individual-differences measure of hope. *J Pers Soc Psychol* 1991;60:570-85.
- Bakoğlu E, Yetkin A. Hipertansiyonlu hastaların özbakım gücünün değerlendirilmesi. *Cumhuriyet Üniversitesi Hemşirelik Yüksek Okulu Dergisi* 2000;4:41-9.
- Puvill T, Lindenberg J, Gussekloo J, de Craen AJ, et al. Associations of Various Health-Ratings with Geriatric Giants, Mortality and Life Satisfaction in Older People. *PLoS One* 2016;11:e0163499.
- Özer M, Özsoy Karabulut Ö. Yaşlılarda yaşam doyumunu. *Geriatri* 2003;2:72-4.
- Kaçan Softa H, Uçukoğlu H, Karaahmetoğlu GU, Esen D. Yaşlılarda ölüm kaygısı düzeyini etkileyen bazı faktörlerin incelenmesi. *Yaşlı Sorunları Araştırma Dergisi* 2011;4:67-79.
- Pinto JM, Fontaine AM, Neri AL. The influence of physical and mental health on life satisfaction is mediated by self-rated health: A study with Brazilian elderly. *Arch Gerontol Geriatr* 2016;65:104-10.
- Kahraman S, Zincir H, Kaya Erten Z. Bir huzurevinde yaşlı kadın ve erkeğin ayrı yaşamasının onların yalnızlık ve yaşam doyumuna etkisi. *Sosyoloji Araştırmaları Dergisi* 2011;14:2-15.
- Kırdı N, Cavlak U, Meriç A, Kerem M. Doğal çevrelerinde ve huzurevinde yaşayan yaşlılarda risk faktörlerinin incelenmesi. *Sağlıklı Yaşlanma Uluslar arası Hemşireler Birliği Teması Sempozyum Kitabı*; 1992.
- Bakış E, Çınar S. Huzurevlerinde yaşayan bireylerde özbakım gücü ve yaşam doyumunu arasındaki ilişki. *Hemşirelik Forumu* 2007;7:89-93.
- Ruchiwit M. The effect of the one-to-one interaction process with group supportive psychotherapy on the levels of hope, anxiety and self-care practice for patients that have experienced organ loss: an alternative nursing care model. *Int J Nurs Pract* 2012;18:363-72.
- Wang LY, Chang PC, Shih FJ, Sun CC, et al. Self-care behavior, hope, and social support in Taiwanese patients awaiting heart transplantation. *J Psychosom Res* 2006;61:485-91.
- Buck HG, Dickson VV, Fida R, Riegel B, et al. Predictors of hospitalization and quality of life in heart failure: A model of comorbidity, self-efficacy and self-care. *Int J Nurs Stud* 2015;52:1714-22.