Original Article

Psychological resilience and its related factors in elderly Patients with Cardiac Ischemic disease

Hosna Ranjbar Kashi[1] , Mohsen Taghadosi[2]*, Zohreh Sadat[3]

[1] MSc, Department of Medical Surgical Nursing, School of Nursing and Midwifery, Kashan University of Medical Sciences, Iran. [2] Associate Professor of Nursing Education, Department of Medical Surgical Nursing, School of Nursing and Midwifery, Kashan University of Medical Sciences, Iran. [3] Associate Professor, Trauma nursing research center, Kashan University of Medical Sciences, Kashan, Iran.

Correspondence: Mohsen Taghadosi, Associate Professor of Nursing Education, Department of Medical Surgical Nursing, School of Nursing and Midwifery, Kashan University of Medical Sciences, Iran.

ABSTRACT

Background and Purpose: Psychological resilience provides the resilient person with the ability to sustain a positive attitude regardless of conditions. the purpose of this study was to "investigate the levels of psychological resilience and its related factors in elderly patients with cardiac ischemic attending to Kashan Shahid Beheshti Hospital during the year 2018". **Methodology:** The cross-sectional study was carried out on 350 individuals aged 60 years and older with ischemic heart disease in Kashan Shahid Beheshti Hospital. Data collection was performed using the Psychological Resilience scale, Mini Mental State Examination and demographic questionnaire. statistical methods including Pearson correlation coefficient, T-test, analysis of variance and the multiple regression analysis were applied for data analysis. Findings: The mean score of psychological resilience was 65.92 ± 8.24 out of a total of 95 points. The mean age was 68.88 ± 7.75 years. Based on the univariate analysis, psychological resilience was significantly related to ages (P <001), income (P = 001), education (p <0.001), patients' spouses education (P <0.001), living in the city (p = .008), the single child (P <001), financial supports (P <001) and underlying diseases (p = .004). Based on the multivariate analysis, lower ages, living in the private home, having single child at home, not receiving financial supports, duration of the underlying diseases and not smoking had significant relationships with increased resilience. **Conclusion:** Most of the individuals had an average to high score of psychological resilience, it is recommended to pay more attention to elderly people showing lower resilience.

Keywords: Psychological resilience, Elderly, Coronary Artery Disease

Introduction

Resilience is a dynamic and inclusive process of adaptation to problems that has the potential for positive action in coping with stress. [1, 2] According to Connor and Davidson, resilience isn't merely a passive resistance to damages or threatening conditions. Instead, resilience means the ability to establish a biological-psychological balance against endangering conditions. the resilient person acts as an active participant and the constructor of his or her perimeter environment. [3] Felten and Hall (2001) defined the resilience as the ability of achieving, maintaining or regaining a level of physical and emotional health after a disease or a devastating loss. [4] Resilience has a great resemblance to an enduring personality trait persisting through the life cycle of humans and adjustment of the stress negative effects and the advanced consistency. [5] The study of resilience which began in the middle of the eighteenth century as a primary mechanism of adaptation in psychology, extended to the way of personal adaptation to stressful physical conditions. [6] Spratling (2012) described the resilience frameworks as linkages between inconveniences, protective factors and positive outcomes, showing family and social communication as the protective factors. [7]

There are various definitions regarding resilience among which health resilience, emotional resilience, dispositional resilience, psychological resilience and physical resilience can be noted. [8-12] For example, psychological resilience focuses on the ability to sustain a positive attitude regardless of condition,[11] and physical resilience is the ability to retrieve or optimize the functions when age- or diseases-related unpleasant events occur. [12] In various societies, scientists have identified several factors associated with resilience such as age, [13-15] sex, [16, 17] religion, [16, 18] economic

Access this article online	
Website: www.japer.in	**E-ISSN:** 2249-3379

How to cite this article: Hosna Ranjbar Kashi, Mohsen Taghadosi, Zohreh Sadat. Psychological resilience and its related factors in elderly Patients with Cardiac Ischemic disease. J Adv Pharm Edu Res 2019;9(S2):133-139.
Source of Support: Nil, Conflict of Interest: None declared.

conditions (income levels), [19, 20] living with others, [21] social support and social performance. [22] Hence, the factors are vary based on the society and culture. [3] The range of resiliencey is variable. [23] In the United States, for example, through a study on elderly people experiencing a stressful event in the last 5 years, the mean scores of the resilience was evaluated as average. [21] Another study in Korea showed lower mean scores of resilience in adults with chronic heart disease. [19] In other studies in Iran the resilience score of the elderly people was about 55 and 65 out of a total of 100 points. [24, 25] Resilience can have positive outcomes such as increased quality of life, [17, 18] nurturing positive people equipped with social responsiveness, social skills and participation [26] and favorable effects on health behaviors and chronic diseases management. [27] As a protective factor, in addition, resilience in elderly people with chronic pains prevents depression symptoms. [28] The lack of resilience can have adverse effects on the quality of individuals' lives. [17]

Nowadays, the rate of aging is rising rapidly [29] and people over 60 years are at least suffering from a chronic disease. In 65% of these people, physical and psychological changes impairing daily activities as well as increased anxiety and sadness sharply decline the quality of lives. [18, 27] In the meantime, cardiovascular diseases are among the most important non-communicable diseases in adults and elderly people. [30] The American Heart Association introduces coronary heart disease as the most common heart disease.[31] Half of people developing myocardial infarction (MI) is older than 65 years old and 75% of deaths in the people over 65 are due to the coronary artery diseases. [32] Based on some studies conducted in the United States [33] and Tehran, [34] the heart and coronary artery diseases are the most common and most important causes of hospitalization among the elderly people. In addition, evidence has reported an increase of 20 to 45 percent in the coronary heart diseases in Iran. [35] On the other hand, it should be noted that considering the psychological and social factors as well as management of stressful conditions and resilience can improve the consequences of the coronary heart diseases, providing patients with comfort. [36, 37]

The resilience levels have been examined in many studies but they haven't under the specific focus in the elderly patients with ischemic heart disease as a common chronic disease of high importance. However, the tools used in the studies on resilience often include general scales such as the Connor-Davidson resilience scale for adults in general (adolescents, middle aged and elderly people). These tools aren't specifically customized for the elderly. [38] In this regard, Windle et al. (2008) proposed the theory that the concept of psychological resilience in elderly people function based on the several psychological sources (self-confidence, individual competence and interpersonal control). Eventually, they presented a tool to measure the psychological resilience in the elderly people. [39] Given the increasing rate of aging, growing incidence of coronary artery disease as an important chronic one and the positive outcomes of the resilience feature, the quality of life can be improved through resilience improvements. The first step in resilience improvement is to know its levels and the effective factors. Various reports of resilience levels and their related factors in different societies indicate the need for study in any population capable of providing valuable information. This information will be used in order to examine the status qua aiming at a transient to the optimal conditions. Therefore, considering the limitations of the study in this area and contradictions mentioned, the purpose of this study is investigating the levels of the psychological resilience and its related factors in elderly patients with cardiac ischemic attending to Kashan Shahid Beheshti Hospital during the year 2018".

Methodology

This descriptive cross-sectional study was conducted on elderly people aged 60 years and older attended to Kashan Shahid Beheshti Hospital during the year 2018. Samples were selected by non-probability sampling method. Sample size was determined via computing the minimum sample size for estimating the mean value of the quantitative variable. According to the study by Resnik et al. the mean and standard deviation of resilience were 89.90 ± 9.50. [40] Considering $\alpha = 0.05$, $\sigma = 9.5$, $d = .2\,\sigma$ ($d = .2 \times 9.5$), the sample size was determined as 350 patients.

$$n = \left(\frac{Z_{1-\alpha/2} * \sigma}{d}\right)^2$$

Patients aged 60 years or older, having communicative abilities, developing ischemic heart disease (more than 40% stenosis in coronary arteries in angiography, treated by percutaneous transluminal coronary angioplasty (PTCA) or coronary artery bypass surgery (CABG), myocardial infarction and a score of at least 21 from Mini Mental State Examination (MMSE) were included in the study. The questionnaires with incomplete responses were excluded.

Chosen subjects continuously attended to the heart unit, emergency ward and the rehabilitation unit of Kashan Shahid Beheshti Hospital from the outset of the sampling process through reaching the optimal sample size. Through the interview method, questionnaire completion was performed based on the patients' personal consents.

The research tools included three questionnaires: The demographic information questionnaire, Mini Mental State Examination (MMSE) and Windle and colleagues' resilience scale.

MMSE scale designed by Folstein et al In 1975, measures the cognitive state in five dimensions including orientation, registration, attention and calculation, recall and language. The questionnaire is completed in form of an interview with the minimum and maximum scores being 0 and 30, respectively. [41] Sayedian et al in Iran. determined the cutoff point as 22 with a sensitivity of 90% and a specificity of 93.5%. [42]

The psychological resilience scal (Brief Resilience scale) includes 19 questions in total with three dimensions self-confidence (8 questions), interpersonal control (5 questions) and competence and efficiency (6 questions). Responses were assessed according

to the 5 options Likert scale with 1 for strongly disagree to 5 for strongly agree and a total score of 95. This measurement model of psychological resilience was presented by Windle et al. (2008) for a research population of 1847 individuals in the age range of 50-90 years from Wales and Scotland with a Cronbach's alpha of 0.83. [39] Assessing the scale validity was carried out through citing the comments of 10 experts and the tool reliability was computed by the Cronbach's alpha method and a two week interval for test retest on 20 eligible individuals.

Data were analyzed by the software SPSS 16 and the independent t-test and Analysis of variance were applied to calculate the statistical differences between mean resilience scores in bi-state demographic factors. Moreover, multivariate regression analysis was conducted to determine the resilience-related factors. The resilience scores and demographic factors were introduced into the model as dependent and independent variables respectively. The significance level was considered less than 0.05.

Ethical considerations:

The research was approved by the Ethics Committee of Kashan University of Medical Sciences with ethical code. (IR.KAUMS.NUHEPM.REC.1396.12).Patients were informed that they could be excluded if they wanted to, and they were assured of their information confidentiality. The questionnaires were anonymous, and all patients signed the informed consent forms.

Findings:

Totally 350 individuals participated in this study. The mean score of psychological resilience was 65.92 ± 8.24 out of a total of 95 points. The highest score of the resilience scale among the three above mentioned dimensions belonged to the self-confidence and the lowest score belonged to the interpersonal control (Table 1). The mean MMSE score was 26.02 ± 2.29 out of a total of 30 points. The median age of the studied elderly patients was 68.88 ± 7.75 years. Sex composition was nearly equal with 50.6% of the participants being female and 49.4% being male. Most of the elderly (62.3%) lived with their spouses and 94.9% owned their homes. Based on the univariate analysis findings, obtaining a high MMSE score, living with the spouse, having the single child, higher levels of education and being employed among the patients and their spouses were significantly related to increased psychological resilience. Moreover, there was a significant relationship between the ages over 70, inadequate income levels and developing other diseases in addition to cardiac ischemia with decreased resilience. No significant relationship was found between the type of ischemic heart disease and its duration with the resilience score, but people with more than one year of the disease history showed higher psychological resilience than those with shorter duration (Table 2). The mean score of the psychological resilience had a significantly positive correlation with the MMSE score and higher monthly income. However, it was in a negative significant correlation with the ages over 70. Increased age was also negatively correlated with the MMSE score (Table 3). Based on the multivariate analysis results, lower ages, owning a private home, having single child at home, not receiving financial supports, duration of the underlying diseases and not smoking were significantly related to the increased resilience (Adjusted $R^2 = 0.25$) (Table 4).

Table 1: Means and standard deviations of psychological resilience scores and their related dimensions

Tools and dimensions of the psychological resilience scale	Mean	Standard deviation
Total psychological resilience tool	65.92	8.24
Self-confidence dimension	29.50	3.44
Interpersonal dimension	15.78	2.82
Competence dimension	20.64	3.68

Table 2: Distribution of the psychological resilience indicators by the related factors

Variable		Number	Percent	Resilience score (Mean & standard deviation)	p-value
Sex	Male	173	49.4	9.07± 65.80	*0.779
	Female	177	50.6	7.36± 66.05	
Single child living at home	Yes	134	38.3	6.75± 67.95	*0.000
	No	216	61.7	8.82± 64.67	
Residence type	City	236	67.4	8.40± 66.73	*0.008
	Village	114	32.6	7.67± 64.25	
Home ownership status	Owner	332	94.9	8.25± 65.72	*0.045
	Renter	18	5.1	7.17± 69.72	
Smoking	Yes	87	24.9	9.33± 65.80	*0.269
	No	263	75.1	7.84± 66.20	

Educational levels	literate	214	61.1	9.76± 67.42	*0.000
	Illiterate	136	38.9	8.43± 63.56	
The Spouses' educational levels	literate	218	62.3	7.61± 67.54	*0.000
	Illiterate	132	37.7	8.57± 63.26	
Employment status	Employed	106	30.3	7.97± 67.46	*0.000
	Not employed	244	69.7	8.28± 65.26	
The Spouses' Employment status	Employed	108	30.9	7.47± 66.23	*0.647
	Not employed	242	69.1	8.57± 65.79	
Underlying diseases present	Yes	261	74.6	8.24± 65.18	*0.004
	No	89	25.4	7.89± 68.11	
Receiving Financial support	Yes	110	31.4	7.51± 62.08	*0.000
	No	240	68.6	7.96± 67.69	
Age (year)	Less than 65	149	42.6	6.55± 69.30	**0.000
	65-70	76	21.7	7.49± 66.92	
	Over 70	125	35.7	8.37± 61.30	
Duration of the underlying disease (If any)	Less than 5 years	104	29.7	7.96± 64.55	**0.988
	5-10 years	111	31.7	8.82± 64.89	
	More than 10 years	47	13.4	7.20± 67.76	
Duration of the cardiac ischemia disease since diagnosis	Less than 1month	23	6.6	10.39± 64.04	**0.285
	1month to 1 year	117	33.4	8.10± 65.93	
	More than 1 year	210	60	8.07± 66.13	
Type of cardiac ischemia	Angiography with stenosis of more than 40%	111	31.7	8.25± 66.81	**0.851
	Myocardial Infarction	90	25.7	8.00± 64.33	
	PTCA	101	28.9	7.82± 67.07	
	CABG	48	13.7	9.02± 64.45	
Monthly income level	Less than 83$	123	35.1	7.63± 63.13	**0.001
	83-165$	165	47.1	8.38± 66.93	
	Above 166 $	62	17.7	7.50± 68.77	

*t-test

**Analysis of variance

Table 3: Pearson Correlation between the Psychological Resilience Scores and Some Parameters

Variable	Correlation level	P-Value
Age	-0/446	p≤ 0.01
MMSE score	0/263	p≤0.01
Monthly income	0/296	p≤0.01

MMSE= mini mental state examination measure.

Table 4: Factors Related to Resilience Score Using Multivariate Regression Analysis*

Variable	B	Beta	t	p
Age	-0.426	-0.385	-0.786	0.000
Educational levels	-0.689	-0.041	-0.631	0.529
Spouses' educational levels	-1.01	-0.006	-0.091	0.928
Employment Status	0.329	0.018	-0.309	0.758
Income levels	1.609E-7	0.020	0.297	0.766
Residence type	-0.214	-0.012	-0.218	0.827
Homeownership status	5.105	0.129	2.391	0.018

Having single child at home	-2.194	0.129	-2.349	0.20
Receiving Financial supports	3.457	0.202	3.010	0.003
Underlying diseases	5.243	0.55	1.040	0.299
Duration of the underlying diseases	2.8078	0.183	3.446	0.001
Smoking	2.863	0.141	2.435	0.16

* Ages and income levels were introduced to the model as the quantitative variables and the rest factors were introduced as the qualitative ones.

Discussion:

According to the present research findings, the mean score of psychological resilience in elderly patients with cardiac ischemic aged 60 and older who attended to Kashan Shahid Beheshti Hospital was 65.92 ± 8.24 out of a total of 95 points. Based on the multivariate analysis, lower ages, owning the private home, having single child at home, not receiving financial supports, duration of the underlying diseases and not smoking had significant relationships with the increased resilience. However, the univariate analysis showed that the psychological resilience was significantly related to lower ages, higher levels of income, higher levels of education among the patients and their spouses, living in the city, having single child, not receiving financial supports and not having underlying diseases. No significant difference was observed between men and women with cardiac ischemia, although the women had higher resilience scores than men. This is consistent with the findings of Connor and Davidson study. [3] Lemus's studies didn't indicate any significant relationships in resilience between men and women. [43] However in some studies carried out in Iran [44] and Pakistan, [17] men showed higher levels of resilience. According to Karimi and colleagues' report, men are more resilient than women because of their higher emotional intelligence. [45] On the other hand, features such as emotions, flexibility and readiness to learn in women allow them to change their lives in different circumstances. [46] The tool used in this study presented a detailed measurement of psychological resilience among the elderly patients with heart disease in terms of self-confidence, interpersonal control, competence and sufficiency. Hence, low differences observed between resilience levels in men and women can be attributed to these dimensions.

In this study, increasing trend of age in the research population (specifically 70 years and above) was significantly associated with decreased resilience scores. This is consistent with the findings by Hardi et al. in the United States. [21] In Germany, studies by Luznitzer showed increased levels of resilience associated with aging in cardiac patients. [22] However, Connor and Davidson found no significant relationship between age and resilience in their research. [3] As a personality trait, resilience can be sustained in whole life or affected positively or negatively by various factors. Given the negative correlation between MMSE scores and increasing age in this study, impairments in psychological health can be considered among the presumable factors leading to reduced resilience in patients aged over 70 years.

Consistent with some studies in Iran, [44] United States [21] and Netherlands, [20] adequate levels of monthly income and educational levels of the studied individuals and their spouses were significantly related to increased resilience in this study.

In the present study, patients receiving financial supports were significantly less resilient. However, receiving financial supports is considered a positive factor in Luznitzer's view. [22] Depending on the family, social and economic conditions governing the research population, the elderly parents might feel losing their self-esteem as the result of receiving financial supports because they always conceived of themselves as supporters of their children. This likely led to significantly decreasing of their resilience scores. It turned out that that people living with their spouses and single children at home are significantly more resilient. This finding is consistent with the study by Izadi et al. [44] Moreover, Wells et al. realized the positive effect of family relationships on resilience scores. [47] According to them, this positive effect significantly increased resilience among the elderly people. [48] The findings also implied the significant correlation between the MMSE scores and the resilience levels. Wells noted the positive impact of mental health on increased resilience. [47] The researcher found a significant relationship between the resilience levels city residents and villagers with the former being more resilient. However Young et al. didn't find any significant relationship between the two parameters in China. [49] Based on Wells study, it seemed that higher levels of psychological resilience in the elderly with cardiac ischemia residing in cities was because of better and easier access to more equipped health centers and better living conditions in cities compared to villages. Furthermore, there have been more educational difficulties in rural areas in the past led to lower levels of education among villagers and in some cases, lower levels of income and resilience.

According to the univariate analysis no significant difference was found in resilience levels between smokers and non-smokers in the present study. However Lemos and colleagues showed that smokers were more resilient. [43] This could be the result of the low number of smokers in the research population of the current study.

This study showed no significant differences in resilience levels between patients with more than 40% coronary stenosis, developing infarction or underwent percutaneous transluminal coronary angioplasty or heart bypass surgery and their durations. No significant difference was found in the Brazilian study too. [43] Since all the research units were admitted at the hospital, there was no difference in their resilience levels, and the causes of hospital admission weren't relevant for patients.

Besides the cardiac ischemia, not having a chronic underlying disease such as diabetes etc. was also significantly effective on increased resilience. However, longer duration of underlying

diseases had a positive effect on resilience improvement than those with shorter durations. According to the results, simultaneously involvement of the elderly patients with several diseases could decrease their resilience levels despite the adaptive improvements made over time.

As a limitation of the study, admission conditions could have been effective in responding to the psychological resilience scale. The strength of this study was using a specific tool in order to measure the resilience levels in the elderly people. The results of this research can be useful in the field of Gerontology, helping to improve the quality of elderly people's lives especially in cases of chronic diseases.

Conclusions:

In this study, more than 60% of the research population obtained two thirds of the total score of psychological resilience scale, indicating a moderate to high level of resilience in them. Based on the multivariate analysis, lower ages, owning a private home, having the single child at home, not receiving financial supports, duration of the underlying diseases and not smoking had significant relationships with the increased resilience. Based on the psychological resilience-related factors in this study, therefore, it is recommended to pay more attention to elderly people showing lower resilience scores. It is also suggested that resilience levels be monitored in patients with other chronic diseases.

Acknowledgements:

The research team is grateful to Vice-Chancellor for Research of Kashan University of Medical Sciences for financial supports, personnel of Kashan Shahed Beheshti Hospital and the elderly patients for their sincere cooperations and participations.

References

1. Luthar SS, Cicchetti D, Becker B. The construct of resilience: A critical evaluation and guidelines for future work. Child development. 2000;71(3):543-62.
2. Compas BE. Psychobiological processes of stress and coping. Annals of the New York Academy of Sciences. 2006;1094(1):226-34.
3. Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). Depression and anxiety. 2003;18(2):76-82.
4. Felten BS, Hall JM. Conceptualizing resilience in women older than 85. Journal of Gerontological Nursing. 2001;27(11):46-53.
5. Wagnild G, Young H. Development and psychometric. Journal of nursing measurement. 1993;1(2):165-78.
6. Tusaie K, Dyer J. Resilience: a historical review of the construct. Holist Nurs Pract. 2004;18(1):3-8; quiz 9-10.
7. Spratling R, Weaver SR. Theoretical perspective: Resilience in medically fragile adolescents. Research and theory for nursing practice. 2012;26(1):54-68.
8. Sanders AE, Lim S, Sohn W. Resilience to urban poverty: theoretical and empirical considerations for population health. American Journal of Public Health. 2008;98(6):1101-6.
9. Chow S-M, Hamagani F, Nesselroade JR. Age differences in dynamical emotion-cognition linkages. Psychology and Aging. 2007;22(4):765.
10. Rossi NE, Bisconti TL, Bergeman C. The role of dispositional resilience in regaining life satisfaction after the loss of a spouse. Death Studies. 2007;31(10):863-83.
11. Boardman JD, Blalock CL, Button TM. Sex differences in the heritability of resilience. Twin Research and Human Genetics. 2008;11(1):12-27.
12. Hicks G, Miller RR. Physiological resilience. Resilience in Aging: Springer; 2011;89-103.
13. Lundman B, Strandberg G, Eisemann M, Gustafson Y, Brulin C. Psychometric properties of the Swedish version of the Resilience Scale. Scandinavian Journal of Caring Sciences. 2007;21(2):229-37.
14. Salazar-Pousada D, Arroyo D, Hidalgo L, Pérez-López FR, Chedraui P. Depressive symptoms and resilience among pregnant adolescents: a case-control study. Obstetrics and Gynecology International. 2010;2010.
15. Moon JR, Huh J, Kang I-S, Park SW, Jun T-G, Lee HJ. Factors influencing depression in adolescents with congenital heart disease. Heart & Lung: The Journal of Acute and Critical Care. 2009;38(5):419-26.
16. DeNisco S. Exploring the relationship between resilience and diabetes outcomes in African Americans. Journal of the American Academy of Nurse Practitioners. 2011;23(11):602-10.
17. Malik S, Afzal N. predictors of quality of life and resilience among outpatients with heart diseases. Journal of Pakistan Psychiatric Society. 2015;12(3).
18. Rocha ACALd, Ciosak SI. Chronic disease in the elderly: spirituality and coping. Revista da Escola de Enfermagem da USP. 2014;48(SPE2):87-93.
19. Lee S, Kim S, Choi JY. Coping and resilience of adolescents with congenital heart disease. Journal of Cardiovascular Nursing. 2014;29(4):340-6.
20. Mertens V-C, Bosma H, Groffen DA, van Eijk JTM. Good friends, high income or resilience? What matters most for elderly patients? The European Journal of Public Health. 2011;22(5):666-71.
21. Hardy SE, Concato J, Gill TM. Resilience of community-dwelling older persons. Journal of the American Geriatrics society. 2004;52(2):257-62.
22. Lossnitzer N, Wagner E, Wild B, Frankenstein L, Rosendahl J, Leppert K, et al. Resilience in chronic heart failure. Deutsche medizinische Wochenschrift (1946). 2014;139(12):580-4.
23. Windle G. What is resilience? A review and concept analysis. Reviews in Clinical Gerontology. 2011;21(2):152-69.
24. Seyyedjafari J, Motamedi A, Mehradsadr M, Olamaie Kopaei M, Hashemian S. The Effectiveness of Acceptance

and Commitment Therapy (ACT) on Resilience in Elderlies. Journal of Aging Psychology. 2017;3(1):21-9.
25. Azami y, motamedi a, doostian u, jalalvand m, farzanwgan m. The Role of Resiliency, Spirituality, and Religiosity in Predicting Satisfaction with Life in the Elderly. Counseling Culture and Psycotherapy. 2013;3(12):1-20.
26. Mandleco BL. An organizational framework for conceptualizing resilience in children. Journal of Child and Adolescent Psychiatric Nursing. 2000;13(3):99-112.
27. Alomari KM. A model predicting self-care among patients with heart failure: Azusa Pacific University; 2011.
28. Bauer H, Emeny R, Baumert J, Ladwig KH. Resilience moderates the association between chronic pain and depressive symptoms in the elderly. European journal of pain. 2016;20(8):1253-65.
29. Rasel M, Ardalan A. The future of ageing and its health care costs: A warning for health system. Sālmand. 2007;2(2):300-5.
30. Sharifirad G, Mohebbi S, Matlabi M. The relationship of physical activity in middle age and cardiovascular problems in old age in retired people in Isfahan, 2006. The Horizon of Medical Sciences. 2007;13(2):57-63.
31. Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, et al. Heart disease and stroke statistics—2016 update: a report from the American Heart Association. Circulation. 2015:CIR. 0000000000000350.
32. Beaglehole R. Coronary heart disease and elderly people. BMJ: British Medical Journal. 1991;303(6794):69.
33. Coleman EA, Min Sj, Chomiak A, Kramer AM. Posthospital care transitions: patterns, complications, and risk identification. Health services research. 2004;39(5):1449-66.
34. Shamsi A, Ebadi A. Risk factors of cardiovascular diseases in elderly people. 2011.
35. Hadaegh F, Harati H, Ghanbarian A, Azizi F. Prevalence of coronary heart disease among Tehran adults: Tehran Lipid and Glucose Study. 2009.
36. Bunker SJ, Colquhoun DM, Esler MD, Hickie IB, Hunt D, Jelinek VM, et al. "Stress" and coronary heart disease: psychosocial risk factors. Medical Journal of Australia. 2003;178(6):272-6.
37. Dimsdale JE. Psychological stress and cardiovascular disease. Journal of the American College of Cardiology. 2008;51(13):1237-46.
38. Windle G, Bennett KM, Noyes J. A methodological review of resilience measurement scales. Health and quality of life outcomes. 2011;9(1):8.
39. Windle G, Markland DA, Woods RT. Examination of a theoretical model of psychological resilience in older age. Aging & mental health. 2008;12(3):285-92.
40. Resnick B, Galik E, Dorsey S, Scheve A, Gutkin S. Reliability and validity testing of the physical resilience measure. The Gerontologist. 2011;51(5):643-52.
41. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. Journal of psychiatric research. 1975;12(3):189-98.
42. Seyedian M, Falah M, Nourouzian M, Nejat S, Delavar A, Ghasemzadeh H. Validity of the Farsi version of mini-mental state examination. 2008.
43. Lemos CMMd, Moraes DW, Pellanda LC. Resilience in patients with ischemic heart disease. Arquivos brasileiros de cardiologia. 2016;106(2):130-5.
44. Izadi-Avanji FS, Kondabi F, Reza Afazel M, Akbari H, Zeraati-Nasrabady M. Measurement and Predictors of Resilience Among Community-Dwelling Elderly in Kashan, Iran: A Cross-Sectional Study. Nurs Midwifery Stud. 2017;6(1):e36397.
45. Karimi Z, Mohammadi K, Zarei E, Zadehbagheri G. Predict Resiliency Based On the Rate Of Emotional Intelligence In Public Organizations In Yasuj. Armaghane Danesh Bimonthly Journal. 2014;19(3):265-74.
46. Brandtstädter J. Sources of resilience in the aging self: Toward integrating perspectives. Social cognition and aging: Elsevier; 1999;123-41.
47. Wells M. Resilience in older adults living in rural, suburban, and urban areas. Online Journal of Rural Nursing and Health Care. 2012;10(2):45-54.
48. Hassani P, Izadi-Avanji F-S, Rakhshan M, Majd HA. A phenomenological study on resilience of the elderly suffering from chronic disease: a qualitative study. Psychology research and behavior management. 2017;10:59.
49. Yang F, Bao JM, Huang XH, Guo Q, Smith GD. Measurement of resilience in C hinese older people. International Nursing Review. 2015;62(1):130-9.