Original Article

The Relationship Between Learned Resourcefulness, Anxiety and Depression in Patients with Atrial Fibrillation

Mahmut Evli, MSc
Research Assistant, Erciyes University Health Science Faculty, Department of Nursing, Kayseri, Turkey

Gulsum Nihal Curuk, PhD
Assistant Professor, Izmir University of Economics, Health Science Faculty, Department of Nursing, Izmir, Turkey

Correspondence: Gulsum Nihal Curuk, Assistant Professor, Izmir University of Economics, Health Science Faculty, Department of Nursing, Izmir, Turkey. E mail:guleser38@gmail.com

Aim: This descriptive study was conducted to determine the relationship between learned resourcefulness, anxiety, and depression in patients with atrial fibrillation.
Methods: This study was conducted on a total of 90 patients meeting the inclusion criteria at Erciyes University Yilmaz-Mehmet Oztaskin Heart Hospital Arrhythmia Outpatient Clinic between 20.03.2014 and 20.07.2014. Ethics committee approval and informed consents of the individuals were received.
The data were gathered by the researcher using questionnaire, Rosenbaum's Learned Resourcefulness Scale, and the Hospital Anxiety and Depression Scale. Descriptive statistics, independent samples t-test, correlation analysis and one-way ANOVA, if any were used for the statistical analysis.
Results: It was found that almost half of the patients (41.1%) had scores above borderline in Hospital Anxiety and Depression Scale-Anxiety scale and more than half (57.8%) had scores above borderline in Hospital Anxiety and Depression Scale- Depression scale; and the mean score obtained by the patients from learned resourcefulness was 124.92 ± 15.21. In the study, a moderate positive correlation was found between anxiety and depression values of the patients ($p<0.01$); whereas, a moderate negative correlation was detected between their learned resourcefulness, anxiety, and depression levels ($p<0.01$).
Conclusions: Nurses who work with AF patients should assess anxiety and depression levels of these patients and support them to increase their learned resourcefulness by teaching ways of cope with stress effectively.

Key Words: Anxiety, Depression, Artial Fibrilation, Learned Resourcefulness

Background

The most frequent cardiac arrhythmia, atrial fibrillation (AF), is observed in 1-2% of the world population (Camm et al. 2010).

In the literature, it has been reported that approximately one third of patients with AF have depression and anxiety at higher rates (Thrall et al. 2007). Although there is limited information about the relationship of AF with anxiety and depression, a few related studies in the literature emphasize a strong relationship between AF and anxiety and depression (Dabrowski et al. 2010; Gehi et al. 2012; Kupper et al. 2013).

It has been known for many years that the relationship between heart diseases and psychiatric disorders is not unidirectional, but causes mutual interaction. The adrenergic hyperactivation caused by anxiety may cause ventricular and/or supraventricular arrhythmias with the addition of AF (Yazici & Yazici, 2003). Raviele et al. (2011) reported that in addition to the anxiety caused by arrhythmia in patients, anxiety has an additional promoting effect on formation of arrythmia. A certain level of anxiety has an effect on formation of arrythmia and also an increase in the anxiety level causes an increase in the severity of symptoms seen in AF (Thompson et al. 2014). Anxiety and depression not only affect negatively sexual live, working life, and daily activities of an individual but also impair quality of life in patients with AF (Dabrowski et al. 2010; Patel et al. 2013). Due to all these reasons, it is highly important to determine anxiety and depression levels of

patients with AF and make proper interventions. It is required to be careful against physiological, emotional, and behavioral responses of anxiety in patients and taken both physical and psychological needs into consideration. To enable individuals to cope with stress, anxiety, and depression effectively is among responsibilities of healthcare personnel (Oz, 2010; Hacihasanoglu et al. 2010). One of the efficient factors for an individual to cope with stressful events is learned resourcefulness, that was defined by Rosenbaum (Huang et al. 2010). When people with high learned resourcefulness levels encounter difficulties, they are more decisive and insistent against them, and they spend more efforts to achieve their goals. High learned resourcefulness level, which improves the ability to cope with stressful events, causes improvement of the individual's self-esteem and decreases the negative symptoms of the disease (Huang et al. 2010; Baydogan & Dag, 2008).

Therefore, determining the learned resourcefulness, anxiety, and depression levels of the patients and promoting the patients with low learned resourcefulness levels to improve their skills require important duties for nurses as consultants and guides.

The objective of this study is to evaluate the relationship between the learned resourcefulness and anxiety and depression in patients with AF.

Methods

Sample

The population of the study consisted of almost 500 patients who applied to Yilmaz-Mehmet Oztaskin Heart Hospital Arrhythmia Outpatient Clinic. The study was started with 85 persons at first stage by taking opinions of a statistician, intermediary assessment was made and it was decided to determine number of sample as 90 persons according to power of the test. This study was conducted on 90 patients between 20.03.2014 and 20.07.2014. The power of the study was determined as 0.99 in the NCSS (Number Cruncher Statistical System) packaged software (when Baseline Correlation 0; alternative correlation; 0.73, α=0.05 and N=90)

Inclusion Criteria of the study

The patients who could speak and understand Turkish, were over 18 years of age, were literate, had no communication problem, were diagnosed with chronic AF, had space and time orientation, had no psychiatric disease and no visual and hearing problem were included in the study.

Measures

Approval of Erciyes University, Clinical Trials Ethics Committee and permission of Yilmaz-Mehmet Oztaskin Heart Hospital were received. In the study, the patients were informed about the objective of the study and their written consents were obtained. The data were collected by the researcher using face-to-face interview technique and the patient records.

Patient Information Form, Rosenbaum's Learned Resourcefulness Scale (RLRS), and Hospital Anxiety and Depression Scale (HADS) were used to collect the data. The Patient Information Form included demographic information such as age, gender, educational state of the patients and information about their AF status upon the related literature review made by the researcher. The patients' learned resourcefulness levels were evaluated by using the RLRS. This scale was developed by Rosenbaum (1980) and was adapted into Turkish by Dag (1991). Reliability coefficients of the scale were calculated by using internal consistency and test retest method and Cronbach’s alpha internal consistency coefficient was 0.78 and total correlation was found to be significant in the range of 0.11-0.51 (Dag, 1991). In the present study, the Cronbach's alpha coefficient of learned resourcefulness scale was 0.76. This scale is a personal assessment scale aimed to measure the level of the cognitive strategies the patient can use to control the stress. It has 36 items measured on a 5-point Likert scale. The scale is scored as 1 point “not defining”, 2 points “poorly defining”, 3 points “ well defining”, 4 points “mostly defining”, and 5 points “very well defining”, and items 4, 6, 8, 9, 14, 16, 18, 19, 21, 29, and 35 are measured and scored in the opposite direction. The lowest score to be obtained from the scale is “36” and the highest score is “180”. High score signifies that the person has high self-control skills and uses his or her coping skills frequently (Dag, 1991).

In order to evaluate anxiety and depression levels of the patients, the Hospital Anxiety and Depression Scale (HADS) was used. The scale includes 14 questions; the odd-numbered 7 questions include anxiety scale (HADS-A), and the even-numbered 7 questions include depression (HADS-D) scale. The items 1, 3, 5, 6, 8, 10, 11, and 13 in the scale show a decreasing severity and are scored as 3, 2, 1, and 0. On the

other hand, the items 2, 4, 7, 9, 12, and 14 are scored as 0, 1, 2, and 3. The cut-off point of the Turkish version of HADS was determined as 10 for anxiety subscale and 7 for depression sub-scale (Aydemir et al. 1997). In the present study, the Cronbach's alpha coefficient was found to be 0.78 for anxiety sub-scale and 0.73 for depression sub-scale.

Analyses

Descriptive and analytical statistics were used to evaluate the data and the quantitative data were presented as arithmetic mean and standard deviation (x ±SD). The t test, correlation analysis, and one-way analysis of variance were used to evaluate the data in the independent groups (post-hoc: Tukey). In order to determine the direction and strength of the relationship between age, learned resourcefulness, anxiety, and depression values; Pearson correlation coefficient was used.

Results

It was found that 73.3% of the patients were female, 47.8% of all the patients were aged between 40-59 years, 68.9% were elementary school graduate; 14.4% had one AF attack per day, 58.9% did not have knowledge about their disease, and 59.5% who had knowledge, considered that this knowledge was insufficient (Table 1).

Total scores obtained by the patients from HADS-A and HADS-D were 8.53±4.04 and 7.75±4.15, respectively. Almost half of patients with AF (41.1%) and more than half (57.8%) had higher than threshold scores from HADS-A and HADS-D, respectively. The mean learned resourcefulness score of the patients was determined as 124.92±15.21 (Table 2).It was found that the relationship between the learned resourcefulness, anxiety and depression values of the patients with AF was in the negative direction and at an intermediate level ($p<0.01$) and the relationship between anxiety and depression values were in the positive direction and at an intermediate level ($p<0.01$). There was a very poor negative correlation ($p>0.05$) between the variable of age and learned resourcefulness, a very poor positive correlation ($p>0.05$) between the variable of age and anxiety level, and a poor positive correlation between the variable of age and depression value ($p>0.05$) (Table 3).

Discussion

It is reported that patients with AF have more frequent anxiety and depression (Thrall et al. 2007; Kupper et al. 2013). In the present study, it was found that 41.1% of the patients with AF were at risk for anxiety and 57.8% were at risk for depression. Other studies reveal that anxiety was observed in 30-42% of the patients with AF and depression was observed in 33-56% of the patients with AF (Thrall et al. 2007; Kupper et al. 2013; Lane et al. 2009; Hamer et al. 1994).

The high level of learned resourcefulness improves the patient's ability of coping with stressful events, increases the self-esteem, and decreases the negative symptoms of the disease is among many factors being effective on anxiety and depression in chronic diseases (Huang et al. 2010; Baydogan & Dag, 2008). In previous studies, it was reported that patients with high learned resourcefulness levels coped more easily with negative conditions, were affected less by stressful events, and had less psychological disorders (Lange & Lingen-Herrmann, 2007; Rosenbaum & Palmon, 1984). Lai reported that the learned resourcefulness affected directly compliance of depressive patients. It has been reported that the learned resourcefulness levels of patients with high anxiety and depression levels are significantly low (Rosenbaum & Palmon, 1984). In the present study, it was determined that there was a negative and moderate statistically significant correlation between the learned resourcefulness and anxiety and depression levels. Similarly, in the study of Huang et al. (2010) the incidence of depressive symptoms in patients with breast cancer, who had high learned resourcefulness levels was determined to be low. In the study of Dirksen (2000), the self-respect and wellness level of patients who had high learned resourcefulness levels were also found to be high. In addition, a study conducted with hemodialysis patients reported a negative correlation between the learned resourcefulness levels and coping with the disease and depression levels (Baydogan & Dag, 2008). Siva (1991) found a significant negative correlation between the depression level and the learned resourcefulness in married couples diagnosed with infertility. In studies conducted with diabetic patients, a negative correlation was also reported between the learned resourcefulness and depressive symptoms (Huang et al. 2008; Zauszniewski et al. 2002).

Learned resourcefulness as a cognitive skill, indicates how a person copes effectively with especially stressful events. It has been reported that patients with high learned resourcefulness levels adapt to chronic diseases faster and better, function more effectively to decrease the obscurity and anxiety related to the disease, and patients with low learned resourcefulness levels experience psychological disorders and give up easily when they face difficulties (Potter & Zauszniewski, 2000). Furthermore, a high learned resourcefulness level is known to play a role in increasing the health perception in patients (Zauszniewski et al. 2006) and decreasing the disease attacks (Huang et al. 2008) and the depressive symptoms (Huang & Hung, 2007).

Table 1. Descriptive characteristics of participants (*n*=90).

Demographic Characteristics	n	%
Gender		
Female	66	73.3
Male	24	26.7
Age Groups		
18-39	17	18.9
40-59	43	47.8
60-75	30	33.3
Mean Age ($\bar{X} \pm SS$)	52.31±13.96	
Education levels		
Elementary school	62	68.9
Middle school	12	13.3
High school or higher	16	17.8
Marital status		
Married	82	91.1
Unmarried	8	8.9
Work status		
Working	10	11.1
Non-working	80	88.9
Socioeconomic status		
High income	24	26.7
Middle income	55	61.1
Low income	11	12.2
Characteristics of the disease		
Time diagnosis of AF		
1-2 year	7	7.8
3-4 year	14	15.6
5 year over	69	76.6
Recurrences of AF		
Once a day	13	14.4
Once or twice a week	29	32.3
Once a month	13	14.4
Attack doesn't pass long time	35	38.9
Information related to AF		
Yes	37	41.1
No	53	58.9
Levels of knowledge about AF according to the individuals expression (*n*=37)		
Adequate	15	40.5
İnadequate	22	59.5

Table 2. Learned resourcefulness, anxiety and depression scale score of participants.

Variables	*n*	%	Mean $\overline{x}$ ± *SD*	Min-max
HAD-A	90	100	8.53±4.04	(1.00-18.00)
Below threshold (0-10 score)	53	58.9	5.77±2.92	(1.00-9.00)
Above threshold (11-21 score)	37	41.1	12.48±2.35	(11.00-18.00)
HAD-D	90	100	7.75±4.15	(0.00-20.00)
Below threshold (0-7 score)	38	42.2	3.92±1.76	(0.00-6.00)
Above threshold (8-21 score)	52	57.8	10.55±2.98	(8.00-20.00)
LR	90	100.0	124.92±15.21	(87.00-157.00)

HAD-A: Hospital Anxiety Depression Scale-Anxiety **HAD-D:** Hospital Anxiety Depression Scale--Depression
LR: Learned Resourcefulness

Table 3. Correlation between age, learned resourcefulness anxiety and depression values of participants.

Variables	LR	HAD-A	HAD-D
LR	1	-0.459*	-0.573*
HAD-A		1	0.521*
HAD-D			1

***<0.01**

Because the learned resourcefulness plays a major role in decreasing the negative results of the chronic diseases, it is thought that it is important to improve the skills of learned resourcefulness levels in these patients.

As a result, it was found that the anxiety and depression levels of the patients were high in patients with AF and there was a negative correlation between the learned resourcefulness and anxiety and depression. For this reason, we should focus on psychological symptoms as well as physical symptoms in patients with AF. In this respect, the patients with AF should be evaluated by a multidisciplinary team for biopsychosocial aspects and their anxiety and depression risk levels should be determined and periodically evaluated by consultation liaison psychiatry service. In addition, trainings should be offered to patients with AF to develop proper coping mechanisms to cope with anxiety and depression and to increase their learned resourcefulness levels. It is required to conduct further experimental studies to improve the learned resourcefullness.

Aknowledgement: This study was supported by Erciyes University, Scientific Research Project Unit, with the project code TYL-2014-5140.

References

Aydemir, O., Guvenir, T., Kuey, L. & Kultur, S. (1997). Validity and Reliability of Turkish Version of Hospital Anxiety and Depression Scale. *Turkish Journal of Psychiatry*, 8, 280-287.

Baydogan, M., & Dag, D. (2008). Predict on of depressiveness by locus of control, learned resourcefulness and sociotropy-autonomy in hemodialysis patients. *Turkish Journal of Psychiatry*, 19, 19-28.

Camm, A. J., Kirchhof, P., Lip, G. Y. H., Schotten, U., Savelieva, I., Ernst S., . . . Le Heuzey, J. Y. (2010). Guidelines for the management of atrial

fibrillation. *European Heart Journal*, 31, 2369-2429. doi:10.1093/eurheartj/ehq278

Dabrowski, R., Smolis-Bak, E., Kowalik, I., Kazimierska, B., Wojcicka, M., & Szwed, H. (2010). Quality of life and depression in patients with different patterns of atrial fibrillation. *Kardiol Pol*. 68, 1133-1139.

Dag, I. (1991). Learned resourcefulness shedule: A reliability and validity study. *Turkish Journal of Psychiatry*, 2, 269-274.

Dirksen, S. R. (2000). Predicting well-being among breast cancer survivors. *Journal of Advanced Nursing*, 32, 937-943.

Gehi, A. K., Sears, S., Goli, N., Walker, T. J., Chung, E., Schwartz, J., . . . Mounsey, J. P. (2012). Psychopathology and symptoms of atrial fibrillation: implications for therapy. *J Cardiovasc Electrophysiol*, 23, 473-478. doi: 10.1111/j.1540-8167.2011.02264.x.

Hacihasanoglu, R., Karakurt, P., Yildirim, A., & Uslu, S. (2010). Anxiety and Depression among Individuals with Chronic Disease who Refer to Primary Health Care Centers. *TAF Preventive Medicine Bulletin*, 9, 209-216.

Hamer, M. E., Blumenthal, J. A., McCarthy, E. A., Phillips, B. G., & Pritchett, E. L. C. (1994). Quality-of-life assessment in patients with paroxysmal atrial fibrillation or paroxysmal supraventricular tachycardia. *The American Journal of Cardiology*, 74, 826-829. doi: http://dx.doi.org/10.1016/0002-9149(94)90448-0

Huang, C. Y., Guo, S. E., Hung, C. M., Shih, S. L., Lee, L. C., Hung, G. C., & Huang, S. M. (2010). Learned resourcefulness, quality of life, and depressive symptoms for patients with breast cancer. *Oncology Nursing Forum*, 37, 280-287. doi: 10.1188/10.ONF.E280-E287

Huang, C. Y., Perng, S. J., Chen, H. F., & Lai, C. Y. (2008). The impact of learned resourcefulness on quality of life in type II diabetic patients: A cross-sectional correlational study. *Journal of Nursing Research*, 16, 264-274.

Huang, M. C., & Hung, C. H. (2007). Quality of life and its predictors for middle-aged and elderly patients with type 2 diabetes mellitus. *Journal of Nursing Research*, 15, 193-201.

Kupper, N., Van den Broek, K. C., Widdershoven, J., & Denollet, J. (2013). Subjectively reported symptoms in patients with persistent atrial fibrillation and emotional distress. *Frontiers in Psychology*, 24, 1-9. doi: 10.3389/fpsyg.2013.00192

Lai, C. Learned resourcefulness, cognitive processes, and adaptive functioning in depressed adults. http://www.nursinglibrary.org/vhl/handle/10755/159044. (Access Date:30.08.2016)

Lane, A. D , Langman, M. C., Lip, G. Y., & Nouwen, A. (2009). Illness perceptions, affective response, and health-related quality of life in patients with atrial fibrillation. *Journal of Psychosomatic Research*, 66, 203-210.

Lange, W. H., & Lingen-Herrmann, C. (2007). Depressive symptoms predict recurrence of atrial fibrillation after cardioversion. *Journal of Psychosomatic Research*, 63, 509-513. doi:10.1016/j.jpsychores.2007.07.010

Oz, F. (2010). *Basic Concepts in Health* (pp. 13-43). Second edition , mattek press, Ankara

Patel, D., Mc Conkey, N. D., Sohaney, R., Mc Neil, A., Jedrzejczyk, A., & Armaganijan, L. (2013). A Systematic Review of Depression and Anxiety in Patients with Atrial Fibrillation: The Mind-Heart Link. *Cardiovasc Psychiatry Neurol, 2013, 159850*. doi: 10.1155/2013/159850

Potter, L. M., & Zauszniewski, A. J. (2000). Spirituality, resourcefulness and arthritis impact on health perception of elders with rheumatoid arthritis. *Journalist of Holistic Nursing*, 18, 311-331.

Raviele, A., Giada, F., Bergfeldt, L., Blanc, J. J., Blomstrom-Lundqvist, C., Mont, L., . . . Shah, D. C. (2011). Management of patients with palpitations: a position paper from the European Heart Rhythm Association. *Europace*, 13, 920-934. doi: 10.1093/europace/eur130.

Rosenbaum, M. A. (1980). Shedule for assessing self-control behaviors. Preliminary findings. *Behavior Therapy*, 11, 109-121.

Rosenbaum, M., & Palmon, N. (1984). Helplessness and recourcefulness in coping with epilepsy. *Journal of Consulting and Clinical Psychology*, 52, 244-253.

Siva, A. (1991). Investigation of coping with stress, learned resourcefulness and depression in the infertile. Unpublished doctoral dissertation, Hacettepe University, Ankara.

Thompson, T. S., Barksdale, D. J., Sears, S. F., Mounsey, J. P., Pursell, I., & Gehi, A. K. (2014). The effect of anxiety and depression on symptoms attributed to atrial fibrillation. *Pacing and Clinical Electrophysiology*, 37, 439-446. doi: 10.1111/pace.12292

Thrall, G., Lip, G. Y., Carroll, D., & Lane, D. (2007). Depression, anxiety, and quality of life in patients with atrial fibrillation. *Chest*, 132, 1259-1264. doi: 10.1378/chest.07-0036

Yazici, K., & Yazici, E. A. (2003). Psychosocial risk factors in cardiovascular diseases. *Anatolian Journal of Psychiatry*, 4:106-112.

Zauszniewski, A. J., McDonald, E. P., Krafcik, K., & Chung, C. (2002). Acceptance, cognitions, and resourcefulness in women with diabetes. *Western Journal of Nursing Research*, 24, 728-750.

Zauszniewski, J. A., Eggenschwiler, K., Preechawong, S., Roberts, B. L., & Morris, D. L. (2006). Effects of teaching resourcefulness skills to elders. *Aging & Mental Health*, 10, 404-412.