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Psychological Resilience of Turkish Heart Failure Patients: The Role of Psychiatric Drugs, Stage of Heart Failure, and Type D Personality

Türk Kalp Yetmezliği Hastalarının Psikolojik Dayanıklılığı: Psikiyatri İlacı Kullanımının, Kalp Yetersizliği Düzeyinin ve D Tipi Kişiliğin Rolü

ORIGINAL ARTICLE

ABSTRACT

Objective: This study aimed to identify the disease-specific factors (degree of heart failure) and psychological variables (type D personality, psychiatric drug use) that influence the psychological resilience of patients with heart failure.

Methods: Using a full-count sampling method, this cross-sectional survey was conducted among 157 Turkish patients with heart failure (57.3% male; mean age 71.7±11.86). Data were collected on personal information, the Type D Scale-14, and the Brief Resilience Scale.

Results: Approximately 68.2% of patients exhibited negative affectivity, and 37.6% demonstrated social introversion. Additionally, 36.3% and 27.4% were classified as having heart failure stages 2 and 3, respectively. Patients with heart failure had a mean resilience score of 18.2±6.6 out of 30. Regression analysis revealed that marital status, living arrangements, economic status, psychiatric drug use, and heart failure stage significantly influenced psychological resilience. Furthermore, negative affectivity and social introversion negatively impacted resilience.

Conclusion: This study found that the psychological resilience of heart failure patients was most significantly affected by the severity of heart failure (Class 3 and Class 4), negative affectivity (a sub-dimension of type D personality), and psychiatric drug use, which was also closely associated with negative affectivity. A decrease in psychological resilience corresponded with an increase in heart failure severity.

Keywords: Consultation-liaison psychiatry, heart attack, nursing, psychological resilience, stage of heart failure, type D personality

ÖZ

Amaç: Bu çalışma, kalp yetersizliği olan hastaların psikolojik dayanıklılığını etkileyen hastalığa özgü (kalp yetmezliği derecesi) ve psikolojik değişkenlere özgü (D tipi kişilik, psikiyatrik ilaç kullanımı) faktörlerin belirlenmesi amacıyla yapılmıştır.

Yöntem: Tam sayımlı örnekleme yöntemi kullanılarak yapılan bu kesitsel araştırma, kalp yetmezliği olan 157 Türk hastada (%57,3 erkek; 71,7±11,86 yaş ortalaması) gerçekleştirildi. Kişisel bilgi formu, D Tipi Kişilik Ölçeği 14 ve Kısa Psikolojik Sağlamlık Ölçeği ile ilgili veriler toplandı.

Bulgular: Hastaların yaklaşık %68,2'sinde olumsuz duygulanım ve %37,6'sında sosyal içe dönüklük mevcutken, sırasıyla %36,3 ve %27,4'ünde kalp yetmezliği evresi sınıf 2 ve %27,4 idi. Kalp yetersizliği olan hastaların ortalama puanının 30 üzerinden 18,2±6,6 olduğu belirlendi. Regresyon analizine göre medeni durum, birlikte yaşadığı kişiler, ekonomik durum, psikiyatrik ilaç kullanımı ve kalp yetmezliği evresinin psikolojik dayanıklılık üzerinde anlamlı etkisi olduğu görüldü. Ayrıca olumsuz duygulanım ve sosyal içe dönüklüğün psikolojik dayanıklılık üzerinde olumsuz etkisi olduğu görülmüştür.

Sonuç: Bu çalışma, kalp yetersizliği olan hastaların psikolojik dayanıklılığının en çok kalp yetersizliğinin derecesi (Sınıf 3 ve Sınıf 4), olumsuz duygulanım (D tipi kişilik özelliği alt boyutu) ve Psikiyatrik ilacın yine olumsuz duygulanımla daha fazla ilişkili olduğu, psikolojik dayanıklılık azaldıkça kalp yetmezliği derecesinin arttığı belirlendi.

Anahtar Kelimeler: Konsültasyon-liyezon psikiyatrisi, kalp krizi, hemşirelik, psikolojik dayanıklılık, kalp yetmezliğinin evresi, D tipi kişilik

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Introduction

Heart failure, a significant global health issue, is a chronic and progressive heart disease characterized by blood pooling in the circulatory system. It is marked by normal venous return to the heart and filling pressure but impaired ventricular function, resulting in the heart's inability to pump sufficient blood to meet the body's metabolic demands.[1,2] Among cardiovascular diseases, heart failure ranks second in incidence, with a prognosis that can rival the severity of cancer.[3,4] According to the Framingham Heart Study, the lifetime risk of developing heart failure is 20% after the age of 40.[5] Mortality rates for acute heart failure range from 21.6% to 36.5% worldwide, while chronic heart failure mortality rates range from 6.9% to 15.6%.[6] In the United States, the prevalence of heart failure is projected to increase by 46%, with over 8 million people expected to have the condition by 2030.[7] The HAPPY study conducted by the Turkish Society of Cardiology reported a 2.9% prevalence of heart failure among individuals over 35 years of age in Türkiye. Additionally, a 2015 study estimated that over 2 million people in Türkiye are living with heart failure.[8] Survival rates for heart failure patients are notably lower than those for individuals with breast, bowel, or prostate cancer.[8]

The primary goals in treating heart failure are to alleviate symptoms, prevent complications, and enhance the quality of life. Rest, dietary management, and proper nursing care remain essential components of treatment.[9-12] Systematic reviews have shown that approximately half of cardiovascular patients, including those with heart failure, experience psychological issues. For this reason, it is important to screen patients for psychosocial risk factors, identify their support needs, and monitor them for symptoms.[13,14] It is recommended that these patients receive individualized counseling and be cared for through a multidisciplinary approach that includes relaxation techniques and group therapies.[15] Psychocardiology—a subdiscipline of Consultation-Liaison Psychiatry—focuses on the interplay between cardiovascular health and mental well-being.[10,16] Within this framework, Consultation-Liaison Psychiatry nursing, a specialty of psychiatric nursing, plays a critical role in identifying patients' mental and psychosocial problems and contributing to their treatment and care.[17,18]

Personality reflects individual differences in feelings, thoughts, and behaviors.[19] Personality types represent basic tendencies developed to protect oneself from existential concerns.[20]

Type A personality is characterized by impatience, anger, aggressiveness, irritability, competitiveness, self-centeredness, and hostility.[21,22] Interestingly, individuals with this personality type tend to have lower levels of mental health problems.[23] In contrast, Type B personality describes individuals with lower levels of competitiveness and anxiety and is considered the complete opposite of Type A personality.[24,25] Type C personality is associated with individuals who are kind, pleasant, passive, and unable to express their emotions. They tend to prioritize the needs of others over their own.[26-28] Finally, Type D personality, also referred to as "distressed personality," is characterized by a combination of negative affectivity and social withdrawal.[29,30]

Individuals with negative affectivity often struggle with low self-esteem, depressive moods, and feelings of anxiety and hostility. In contrast, socially inhibited individuals are characterized by feelings of tension and pressure.[31] Psychological conditions, including heart diseases, are commonly observed in individuals with Type A and Type D personalities.[32-36] For instance, the anger and hostility associated with Type A personality have been linked to increased susceptibility to heart disease, while Type D personality has been shown to exacerbate heart disease symptoms.[37-39] Type D personality is particularly associated with a higher susceptibility to heart disease, negatively influencing the prognosis of heart failure and contributing to adverse health outcomes.[40,41] Such individuals are more likely to experience a higher incidence of cardiac symptoms and are reported to delay seeking hospital care.[41,42] While there are numerous studies on the levels of depression, anxiety, stress, and anger among heart patients in Türkiye,[34-45] research specifically focusing on the psychological resilience of heart patients is limited.[44] Notably, no studies have been identified that specifically examine the psychological resilience of patients with heart failure.

Adequate levels of psychological resilience in individuals exposed to stressors associated with chronic diseases serve as an important protective factor.[46] People with high resilience tend to experience greater life satisfaction, lower levels of negative emotions, and better coping abilities, with their resilience influenced by the nature and extent of the challenges

MAIN POINTS

- The study identified significant negative correlations between the sub-dimensions of Type D personality (negative affectivity and social introversion) and psychological resilience in heart failure patients, highlighting the interrelation between these factors.
- Patients with advanced stages of heart failure (NYHA Class 4) demonstrated significantly lower psychological resilience compared to those in earlier stages, emphasizing the importance of considering disease severity in patient care.
- Psychological resilience was found to be significantly associated with gender, economic status, and psychiatric drug use, with female patients, those with poor economic status, and psychiatric drug users showing lower resilience levels.
- Holistic care approaches that address both personality traits and resilience levels, particularly through Consultation-Liaison Psychiatric nursing, are essential to improve coping skills and quality of life in heart failure patients.
- Future studies should include larger sample sizes, explore additional personality traits and disease-related factors, utilize varied assessment tools, and incorporate therapeutic intervention programs to better understand and enhance psychological resilience in heart failure patients.

they face.[47-49] However, there is insufficient information regarding the disease-specific and psychological variables that influence psychological resilience in patients with valve failure, as well as the extent of their impact. Therefore, this study aimed to identify the disease-specific factors (e.g., degree of heart failure) and psychological variables (e.g., Type D personality, psychiatric drug use) that affect the psychological resilience of patients with heart failure, as well as the relationships among these factors.

Methods

Study Design and Study Sample

This was a cross-sectional analytical study. The study population consisted of individuals diagnosed with heart failure who attended the cardiology clinics of the Ministry of Health Ordu State Hospital over the course of one year. The cardiology clinics, located on the hospital's clinic floor, include six outpatient clinics staffed by six cardiologists, serving an average of 300 patients daily. During the COVID-19 pandemic, a single cardiology clinic within the hospital provided care to approximately 48 patients daily. In this study, the "full-count method" was employed without sampling. From February 3, 2020, to August 3, 2020, a total of 157 patients who met the inclusion criteria were included in the study.

Inclusion and Exclusion Criteria

The inclusion criteria for the study were as follows: participants had to be adults (18 years or older), have a diagnosis of heart failure, and voluntarily agree to participate in the study. Exclusion criteria included the presence of psychiatric conditions such as intellectual disability, delirium, dementia, psychotic disorders, or other conditions that impaired verbal communication.

Measures

Socio-demographic Information Form

The socio-demographic information form consisted of nine questions designed to collect information about participants' sociodemographic characteristics. These included age, gender, educational status, whether they have children, their living arrangements, perceived economic status (categorized as good, moderate, or bad), and the use of psychiatric medication (specifically for sleeping problems or to calm down).

Stages of Heart Failure

Two classification methods are most commonly used to identify heart failure. The first is the New York Heart Association (NYHA) classification, which categorizes heart failure based on functional and exercise capacity. The second is the American Heart Association/American College of Cardiology classification, which categorizes heart failure based on structural abnormalities of the heart. The NYHA classification is widely recognized as a strong prognostic marker, as higher functional classes are associated with reduced survival rates.[50] This study adopted the NYHA classification to assess the stages of heart failure. According to the NYHA system, patients are classified from Class I to Class IV based on their physical activity limitations (Table 1).[50]

Table 1. Stages of Heart Failure Classification of the New York Heart Association

	n	%
NHYA Classification		
Class 1	27	17.2
Class 2	57	36.3
Class 3	43	27.4
Class 4	30	19.1

Type D Scale 14

The Type D Scale 14 (DS14) was developed by Denollet[42] to measure Type D personality and was adapted into Turkish by Öncü and Vayısoğlu.[27] The scale consists of 14 items rated on a 5-point Likert scale. It includes two subscales: social introversion and negative affectivity, each with scores ranging from 0 to 28. A cut-off score of ≥10 is used for both subscales to identify individuals with Type D personality traits.

According to the Turkish validity and reliability study, the Cronbach's alpha coefficient was 0.85 for negative affectivity and 0.76 for social introversion. In this study, the Cronbach's alpha coefficients were 0.776 for negative affectivity and 0.568 for social introversion.

Brief Psychological Resilience Scale

The Brief Psychological Resilience Scale (BPRS), developed by Smith et al.,[51] is designed to measure individuals' psychological resilience. It was adapted into Turkish by Doğan.[52] The scale consists of six items rated on a 5-point Likert scale, with total scores ranging from 6 to 30. The questions assess how individuals typically cope with distressing situations. According to the Turkish validity and reliability study, the Cronbach's alpha coefficient for the scale was 0.83.[52] In this study, the Cronbach's alpha coefficient was found to be 0.838.

Statistical Analysis

The data were analyzed using the SPSS 21 statistical package program (IBM Corp., Armonk, NY, USA). The normality of the data distribution was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. For data with a normal distribution, comparisons were made using the independent samples t-test and one-way analysis of variance (ANOVA). For data that did not follow a normal distribution, the Mann-Whitney U test and Kruskal-Wallis test were employed. Correlations between variables were analyzed using Pearson correlation analysis. Data following a normal distribution are presented as mean ± standard deviation, while data not following a normal distribution are presented as median (minimum-maximum). Additionally, linear regression analysis was conducted to identify independent variables influencing the DS14 scale.

Ethical Principles of the Study

Written permission to conduct the research at Ordu State Hospital was obtained from the Ordu Provincial Directorate of Health (Document Number: 19419511.903.99-E.2488, Date: 26.11.2019). Approval to carry out the study was also granted by the Ordu University Clinical Research Ethics Committee (Approval Number: 2020-02, Date: 02.01.2020). Participants who agreed to take part in the study were informed about its

aims and objectives, and written consent was obtained from all participants. The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.

Results

Characteristics of the Participants

The socio-demographic characteristics of the 157 individuals diagnosed with heart failure who participated in this study are summarized in Table 2. The mean age of the participants was 71.7 ± 11.86 years, ranging from 18 to 91. More than half were male (57.3%; n = 90). Regarding educational status, 5.7% of participants were literate, 38.2% were illiterate, and 39.5% had completed preschool education. Among the participants, 75.8% were married, and 87.9% had children. Additionally, 38.2% lived with their partners, and 37.6% resided in the provincial center. In terms of the New York Heart Association (NYHA) classification of heart failure, 17.2% of participants were classified as Class 1, 36.3% as Class 2, 27.4% as Class 3, and 19.1% as Class 4 (Table 2).

Among the subdomains of Type D personality, 68.2% of the patients exhibited negative affectivity, while 37.6% displayed social introversion. The mean score for negative affectivity was 14.2 ± 7.6, and the mean score for social introversion was 8.4 ± 5.3. Additionally, the mean score for psychological resilience was reported as 18.2 ± 6.6 (Table 3).

Distribution of the Type D Personality and Psychological Resilience

Negative affectivity showed a significant gender difference, with females reporting higher mean scores than males (15.8 ± 7.5 vs. 13.1 ± 7.5; P < 0.05). However, no socio-demographic factors were significantly associated with social introversion. Males had significantly higher mean psychological resilience scores than females (19.2 ± 6.5 vs. 16.8 ± 6.5; P < 0.05). Economic status was significantly associated with psychological resilience. Participants with good economic status reported the highest mean resilience scores (19.3 ± 6.3), followed by those with moderate (18.6 ± 6.3) and poor economic status (14.1 ± 7.0; P < 0.05) (Table 2).

Participants using psychiatric drugs had significantly higher scores in both subdomains of Type D personality compared to non-users (17.8 ± 7.9 vs. 12.9 ± 7.1, P < 0.01 for negative affectivity; 10.0 ± 6.0 vs. 7.9 ± 4.9, P < 0.05 for social introversion). Conversely, non-drug users had significantly higher psychological resilience scores than drug users (19.4 ± 6.2 vs. 14.9 ± 6.6; P < 0.01). In terms of heart failure stage, participants at higher stages of the condition reported significantly higher scores for negative affectivity and social introversion but lower scores for psychological resilience (Table 2).

Correlation of the Continuous Variables

A moderate positive correlation was observed between the two subdimensions of Type D personality—negative affectivity and social introversion (r = 0.413). Negative affectivity showed a significant moderate negative correlation with psychological resilience (r = -0.594). Similarly, social introversion demonstrated a significant moderate negative correlation with psychological resilience (r = -0.350) (Table 3).

Factors Associated with Psychological Resilience

The regression model created for psychological resilience was statistically significant (p < 0.001). VIF values were investigated to determine whether there were multicollinearity issues between independent variables, and all values were found to be smaller than 10. In the regression model, those who were single had lower psychological resilience (-3.790). The resilience points of those living with partners (-4.628) were lower compared to those living with partners and children (-4.409). Participants with poor economic status (-5.064) were identified to have lower psychological resilience. Similarly, patients using psychiatric drugs were identified to have lower resilience (-3.388). Patients with heart failure Class 4 had lower psychological resilience (-3.187). In addition, negative affectivity (-3.987) and social introversion (-3.524) were identified to have lower resilience. The model partially explained 35.2% of the variance in psychological resilience. There was no statistically significant difference in resilience according to the other demographic characteristics (age, sex, educational status, having children, and place of residence) (P > 0.05) (Table 4).

Discussion

This study aimed to identify the disease-specific factor (degree of heart failure) and psychological variables-specific factors (Type D personality, psychiatric drug use) that influence the psychological resilience of patients with heart failure. However, before considering the potential applications of the findings, certain limitations must be acknowledged.

First, the study was conducted exclusively in the city of Ordu, which may limit the generalizability of the findings to other regions of the country. Second, the use of a self-report questionnaire introduces another limitation. Specifically, the patients provided self-reported information regarding their psychiatric drug use and heart failure classification, following the NYHA guideline, without a physician's evaluation.

This study found statistically significant negative correlations between the sub-dimensions of Type D personality (i.e., negative affectivity and social introversion) and psychological resilience. Regression analysis indicated that heart failure patients with negative affectivity had 3.987 times lower psychological resilience, while patients with social introversion had 3.524 times lower resilience.

Similarly, a previous study reported that psychological resilience and adaptability were significantly lower in coronary artery patients with Type D personality compared to those without. While the direct effect of Type D personality on adjustment was not significant, its indirect effect on adjustment through psychological resilience was significant.[53] Another study on coronary artery disease found that as negative affectivity (e.g., hopelessness) increased, stress management capabilities decreased.[54] These results demonstrate that Type D personality traits and their sub-dimensions have a negative impact on psychological resilience.

In terms of gender, although a previous study by Liu et al.[55] in 2015, found no significant role in psychological resilience, the mean score of psychological resilience in this study was significantly higher for male patients. This difference may

Table 2. Scores comparison of Negative Affectivity, Social Introversion, and Psychological Resilience

		Negative Affectivity	Social Introversion	Psychological Resilience
Characteristics	**n**	**X̄ ± SD**	**X̄ ± SD**	**X̄ ± SD**
Gender				
Woman	67	15.8 ± 7.5	8.6 ± 5.4	16.8 ± 6.5
Man	90	13.1 ± 7.5	8.3 ± 5.2	19.2 ± 6.5
Test/ *p* value		t=2.238/ **0.027**	t=0.037/ 0.713	t=2.225/ **0.028**
Education level				
Illiterate	60	15.0 ± 7.5	8.4 ±5.1	17.1 ± 6.8
Literate	9	11.8 ± 8.2	7.7 ± 5.8	20.2 ± 7.9
Primary school	62	13.8 ±7.7	8.1 ± 5.3	19.0 ± 6.4
Middle School	13	17.0 ± 7.7	11.2 ± 5.8	18.1 ± 5.0
High school and above	13	11.8 ± 6.8	8.1 ± 4.9	18.2 ± 7.1
Test/ *p* value		F=1.396/0.318	F=1.034/ 0.392	F=0.835/ 0.505
Marital status				
Married	119	14.1 ± 7.3	8.7 ± 5.4	18.7 ± 6.4
Single - Widowed/Divorced	38	14.7 ± 8.5	7.6 ± 4.6	16.6 ± 7.0
Test/ *p* value		t=0.392/ 0.696	t=1.095/ 0.275	t=1.683/0.094
Having a child				
Yes	138	14.4 ± 7.7	8.6 ± 5.4	18.1 ± 6.8
No	19	12.7 ± 7.1	7.2 ± 4.5	18.9 ± 5.3
Test/ *p* value		t=0.948/ 0.345	t=1.138/ 0.257	t=0.603/0.618
Living with				
Alone	16	14.8 ± 9.8	7.1 ± 5.4	18.4 ± 8.0
with spouse	60	13.7 ± 7.3	9.3 ± 5.3	18.6 ± 6.3
With spouse and children	50	14.7 ± 7.8	8.4 ± 5.7	18.0 ± 6.7
Other	31	14.2 ± 7.0	7.6 ± 4.2	17.5 ± 6.4
Test/ *p* value		F=0.212/0.888	F=1.158/ 0.328	F=0.213/0.887
Living place				
Province	59	15.2 ± 7.2	7.7 ± 5.6	18.0 ± 6.7
District	43	13.4 ± 8.4	9.6 ± 5.5	18.6 ± 6.7
Village	55	13.8 ± 7.3	8.3 ± 4.6	18.1 ± 6.4
Test/ *p* value		F=0.095/0.909	F=1.664/ 0.193	F=0.11/ 0.896
Economic status				
Good	33	13.2 ± 8.4	7.8 ± 5.5	19.3 ± 6.3b
Middle	104	14.1 ± 7.5	8.6 ± 5.5	18.6 ± 6.3b
Bad	20	17.0 ± 6.5	8.4± 3.6	14.1 ± 7.0a
Test/ *p* value		F=1.65/ 0.196	F=0.259/ 0.773	F=4.79/ **0.010**
Psychiatric drug use				
Yes, I am using	42	17.8 ± 7.9	10.0 ± 6.0	14.9 ± 6.6
No, I don't use	115	12.9 ± 7.1	7.9 ±4.9	19.4 ± 6.2
Test/ p value		t=3.645/ **<.001**	t=2.299/ **0.023**	t=3.921/ **<.001**
Stage of heart failure				
Class 1	27	11.2 ± 7.0a	7.3 ± 5.2	21.2 ± 5.5c
Class 2	57	12.7 ± 7.6ab	8.1 ± 4.8	18.9 ± 6.0bc
Class 3	43	15.4 ± 7.2bc	9.1 ± 6.0	17.5 ± 7.0ab
Class 4	30	18.2 ± 7.0c	9.2 ± 5.0	15.0 ± 6.7a
Test/ p value		F=5.84/ **0.001**	F=1.007/ 0.392	F=4.918/ **0.003**

r: Pearson correlation coefficient F: One-way analysis of Yesiance [mean ± Standard deviation], t: Independent samples t-test statistic [mean ± Standard deviation] a,b,c: there are differences between those with different letters

Table 3. Correlation of the Continuous Variables

	1	2 3	Age				
	r	r r	r	X̄ ± SD	Min-Max	Yes	No
Negative affectivity			0.931	14.2 ± 7.6	0-28	68.2%	31.8%
Social introversion	0.413		0.631	8.4 ± 5.3	1-22	37.6%	62.4%
Psychological resilience	-0.594	-0.350	0.774	18.2 ± 6.6	6-30	-	-

be attributed to lower resilience among female patients, potentially due to greater exposure to social pressures, including limited opportunities for socialization and, in some societies, experiences of marginalization.

Additionally, the psychological resilience score of patients with heart failure varied according to their economic status. Regression analysis revealed that patients with poor economic status had resilience scores 5.064 points lower than those in higher economic classes. Evidence from studies on patients with chronic diseases supports this finding, indicating that individuals with poor economic status tend to have lower psychological resilience.[56] Socioeconomic status is reported to directly impact individuals' health and disease outcomes.[57] Research exploring the relationship between socioeconomic status and health has shown that low socioeconomic status, through its effects on lifestyle and living conditions, contributes to increased mortality and disease rates.[58] For example, a study conducted with married individuals found that psychological resilience did not differ by gender, age, employment status, or whether the spouse was employed. However, resilience levels did vary according to educational attainment, the spouse's education level, and perceived economic status.[59] In contrast, a study on multiple sclerosis patients found that psychological resilience was lower in patients compared to a control group, but socioeconomic level did not significantly affect resilience in regression analysis.[60] These findings suggest that the impact of socioeconomic inequalities on health is more pronounced in high-risk groups and among individuals with chronic diseases.[61] The variability in findings across studies highlights that an individual's psychological resilience may be closely tied to their perceived economic status and sense of economic inadequacy.

Heart failure patients using psychiatric drugs (e.g., mild antianxiety medications for sleep and relaxation) were 3.388

Table 4. Regression Analysis of Psychological Resilience

		%95 CI								
	β^1	Alt Sınır	Üst Sınır	SH	β^2	t	P	r^1	r^2	VIF
Constant	27.427	19.674	35.18	3.92		6.997				
Marital Status										
Single	-3.79	-7.052	-0.528	1.649	-0.248	-2.298	**0.023**	-0.134	-0.195	2.785
Person living with (alone)										
With spouse	-4.628	-8.874	-0.383	2.147	-0.343	-2.156	**0.033**	0.054	-0.183	6.061
With spouse and children	-4.409	-8.508	-0.311	2.072	-0.312	-2.128	**0.035**	-0.023	-0.181	5.141
Other	-2.474	-5.871	0.924	1.718	-0.15	-1.44	0.152	-0.048	-0.123	2.611
Economic status (good)										
Middle	-0.194	-2.409	2.02	1.12	-0.014	-0.174	0.862	0.093	-0.015	1.548
Bad	-5.064	-8.371	-1.758	1.672	-0.258	-3.029	**0.003**	-0.239	-0.253	1.736
Psychiatric drug use (as sleep, tranquilizer)										
Yes	-3.388	-5.42	-1.355	1.028	-0.229	-3.297	**0.001**	-0.301	-0.274	1.154
Stage of heart failure (Class 1)										
Class 2	-1.555	-4.166	1.056	1.32	-0.114	-1.178	0.241	0.084	-0.101	2.246
Class 3	-1.076	-3.853	1.7	1.404	-0.073	-0.767	0.445	-0.059	-0.066	2.154
Class 4	-3.187	-6.246	0.128	1.547	-0.191	-2.061	**0.041**	-0.237	-0.175	2.065
Negative affectivity (Yes)		-6.085	1.889	1.061	-0.284	-3.759	**<0.001**	-0.447	-0.309	1.362
Social Introversion (Yes)	-3.524	-5.472	1.576	0.985	-0.26	-3.579	**<0.001**	-0.340	-0.295	1.267

*F=5.017; p<0.001; Adj. R2=0.352; R2=0.440; Durbin-Watson=2.002; β^1: non-standardized coefficient; β2: Standardized coefficient; r1: Simple correlation; r2: Partial correlation

times more likely to report lower psychological resilience. A study conducted in Australia on individuals with heart disease[62] observed that psychological resilience levels varied based on the presence of psychiatric problems, with those experiencing mental distress exhibiting lower resilience. The role of psychosocial support (from family, friends, or spouses) in enhancing psychological resilience has been demonstrated in patients with chronic diseases, including heart failure.[53,63] Therefore, psychological interventions should target both psychological and cognitive factors, such as increasing self-efficacy, resilience, health literacy, and knowledge, while addressing Type D personality traits and reducing depressive symptoms.[64-68] These findings suggest that individuals with higher psychological resilience possess better coping skills and are less likely to rely on psychiatric medications.

According to this study, the mean psychological resilience score of heart failure patients significantly differed based on the stage of heart failure. It was found that patients in Class 1 and Class 2 had significantly higher resilience scores compared to those in Class 4. In other words, individuals in the early stages of heart failure tend to be more resilient, whereas vulnerability to reduced psychological resilience increases as the disease progresses to more severe stages. Regression analysis revealed that the resilience score of patients in Class 4 was 3.187 units lower. Yılmaz and Kara (2020) reported that resilience scores varied based on the severity of chronic diseases, a finding consistent with this study.[58] However, a study by Heo and Kim (2020) found no significant association between psychological resilience and the stage or duration of the disease.[56] Nonetheless, most evidence indicates that resilience declines as the disease progresses. As disease severity increases, patients experience greater restrictions in movement, often requiring assistance from others. These changes may lead to reduced self-esteem and disrupted body image, which are believed to decrease resilience. Furthermore, as the severity of the disease escalates, issues such as poor sleep quality, impaired cognitive function, mental imbalance, and societal inadequacy are thought to contribute to the decline in resilience.

Conclusions

This study demonstrated that the sub-dimensions of Type D personality (social introversion and negative affectivity) are significant factors influencing psychological resilience in heart failure patients and that these are interrelated concepts. Additionally, gender, economic status, and the use of psychiatric drugs were found to be associated with resilience. Most importantly, the study highlighted that the degree of heart failure, as classified by the NYHA system, significantly impacts psychological resilience.

In this context, providing holistic care tailored to both the personality type and psychological resilience level of heart failure patients can significantly enhance their coping skills and quality of life. Consultation-Liaison Psychiatric nursing, a recent specialty within psychiatric nursing, offers integrated care that addresses the mental health dimensions of patients and can play an active role in evaluating and monitoring heart failure patients. Particular attention should be given to female patients with high negative affectivity and low resilience. These patients should be closely monitored for signs and symptoms of diminished psychological resilience, their social support systems should be assessed, and psychological support should be provided as needed. Given that psychological resilience is influenced by Type D personality traits, heart failure patients with these traits are likely to exhibit lower coping skills. Therefore, increasing social support for such patients is essential to improve their psychological well-being and resilience.

In addition, when caring for heart patients, the severity of the disease should be taken into account, as patients with severe heart failure were found to have lower psychological resilience. Challenges that arise as the disease progresses should be carefully observed and addressed. Patients with less severe forms of the disease should be supported in developing effective coping strategies. Future studies on this topic are recommended to include larger participant groups, gather more comprehensive information about the disease and personality traits, utilize diverse assessment tools, and incorporate therapeutic intervention programs.

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