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THE IMPORTANCE OF COMPLIANCE WITH DISEASE MANAGEMENT IN PATIENTS WITH HEART FAILURE1

KALP YETMEZLİĞİ OLAN HASTALARIN HASTALIK YÖNETİMİNE UYUMUNUN ÖNEMİ

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Abstract: Aim: This research aims to uncover the significance of adhering to the disease management guidelines for individuals suffering from heart failure, given its high prevalence and the consequential morbidity and mortality rates, as supported by the existing literature.

Method: The article analyzed recent research studies on heart failure and CAD to determine the importance of patient compliance in disease treatment. The results were presented with statistics.

Conclusion: Throughout the world, heart diseases are widely recognized as the primary cause of death and disability. These ailments can result in premature death, significant disability, and a substantial increase in healthcare expenses. Upon examining the factors that lead to the readmission of heart failure patients, it was discovered that non-compliance with physical activity, dietary recommendations, and drug therapy played a significant role. Patients' chances of recovery increase as they become more compliant with their treatment. To initiate the adaptation process, educating patients about their illness, considering their beliefs and values, evaluating their perspective on their health and the factors influencing it, and encouraging their involvement in treatment and care are crucial. It is worth noting that heart disease can be prevented with healthy lifestyle choices and nutrition or treated with a combination of medical intervention, nutritional therapy, and lifestyle changes post-diagnosis. Patients' ability to afford self-care is crucial in maintaining a high quality of life following a diagnosis. Health professionals play a pivotal role in improving self-care behavior, a non-pharmacological approach that supports treatment, enhances the patient's quality of life and reduces the likelihood of repeated hospitalizations and financial strain. By identifying positive and negative beliefs surrounding patient compliance with treatment and focusing on the patient's attitude towards their treatment, health professionals can effectively enhance self-care behavior.

Keywords: Heart Failure, Self-Care, Patient Compliance, Quality of Life

Öz: Bu çalışmanın amacı, görülme sıklığı ve neden olduğu mortalite ve morbiditeler sebebiyle kalp yetmezliği olan bireylerin hastalık yönetimine uyumunun önemini literatür eşliğinde ortaya koymaktır.

Yöntem: Kalp yetmezliği ve koroner arter hastalığın (KAH) tedavisi ve bakımı için hastanın uyumunun önemli olup olmadığını ortaya koyan araştırma ve istatistik sonuçlarına yer verilmiştir.

Sonuç: Kalp rahatsızlıkları dünya çapında önde gelen ölüm ve sakatlık nedeni olarak kabul edilmekte olup erken ölümlerin ve önemli bir yeti yitiminin nedenidir ve artan sağlık harcamalarının büyük bir kısmından sorumludur. Kalp yetmezliği olan hastaların tekrar vatıslarına neden olan faktörler incelendiğinde fiziksel aktivitelere, diyete yönelik önerilere ve ilaç tedavisine uyumsuzluk görülmüştür. Oysaki hastaların tedaviye uyumları arttıkça iyileşme oranı da artmaktadır. Bireyin hastalığa uyum sürecini başlatılabilmesi için hastanın hastalık hakkında bilgilendirilmesi, hastaya ait inanç ve değerlerinin önemsenmesi, bireyin sağlığına verdiği değeri ve bunu etkileyen faktörlerin değerlendirilmesi, bireyin tedavi ve bakıma katılımının sağlanması gereklidir. Kalp hastalıklarının, sağlıklı beslenme ve yaşam tarzı değişikliği ile önlenebilen veya oluştuktan sonra tıbbi tedavi, beslenme tedavisi ve yaşam tarzı değişiklikleri ile iyileştirilebilen bir sağlık sorunu olduğu bilinmektedir. Tanı konulduktan sonra yasam kalitesini sürdürmede hastanın öz bakımını karşılayabilmesi önemlidir. Sağlık profesyonelleri hastanın tedaviye uyumu konusunda sahip oldukları olumlu ve olumsuz inançları tanımlayarak, tedaviye ilişkin inanca odaklanmak suretiyle tedaviye katkıda bulunan, hastanın yaşam kalitesini artıran, tekrarlı yatışları ve ekonomik yükü azaltan farmakolojik olmayan bir yöntem olan öz bakım davranışını iyileştirilebilecekleri vurgulanmaktadır.

Anahtar Kelimeler: Kalp Yetmezliği, Özbakım, Hasta Uyumu, Yaşam Kalitesi

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INTRODUCTION

Although science and technology have significantly advanced in developed countries, coronary artery disease (CAD) remains a significant cause of death. Atherosclerosis is the leading cause of cardiovascular disease-related deaths and is often the root cause of CAD. Inflammation is essential in all stages of atherosclerosis, which involves various molecules (Libby, 2002). CAD occurs when coronary arteries, responsible for supplying blood to the heart muscle, narrow or become blocked entirely. Symptoms of CAD can vary or go unnoticed, but in advanced stages, it can lead to a heart attack, which can be fatal (Türk kalp ve damar cerrahisi derneği, 2020).

CVDs are now recognized as the leading cause of death and disability worldwide (Mendis et al., 2011). Worldwide, it was estimated that 17.7 million people died due to CVD in 2015, representing 31% of all global deaths. Of these deaths, 7.4 million were due to CAD, and 6.7 million were due to stroke (WHO, 2017). 92.1 million adults in the United States (US) have had at least one type of CVD. In the United States, it is estimated that by 2030, 43.9% of the adult population will have some CVD. However, it was found that from 2004 to 2014 in the USA, the death rate due to CVD decreased to 25.3% (Benjamin et al., 2017). Three-quarters of global CVD deaths occur in low- and middle-income countries. Of the 17 million premature deaths (under 70 years of age) in 2015 from non-communicable diseases, 82% occurred in low- and middleincome countries, and 37% were due to CVDs. This rate is almost equal in men and women (Roth et al., 2015).

Cardiovascular diseases are a cause of premature death and significant disability in European communities and are responsible for a large portion of increased healthcare costs (De Backer et al., 2003). CVD is also the leading cause of morbidity and mortality in the Turkish population. The prevalence of CVD in group over 60 throughout Turkey was found to be 28%. (Civek & Akman, 2022). CVDs rank first among the causes of death in Turkey and constituted 47.73% of all causes of death in 2010 (T.C. Sağlık Bakanlığı, 2010). The annual death rate due to CAD is 5.2 per thousand in male patients and 3.2 per thousand in female patients (Onat, 2009). It is ranked first in deaths worldwide (Nhunget al.,2020; WHO, 2020). According to the Turkish Statistical Institute data, diseases originating from the circulatory system ranked first among the causes of death in 2018.

Cardiovascular artery diseases have a multitude of risk factors, some of which are modifiable while others are not. Modifiable risk factors include high blood pressure, high blood cholesterol levels, smoking, diabetes, overweight or obesity, lack of physical unhealthy diet. activity. and stress. Conversely, non-modifiable risk factors include age (as the age progresses, the risk amplifies), gender (men are at higher risk), and family history. Therefore, it is crucial to manage the modifiable risk factors to reduce the likelihood of developing cardiovascular artery diseases, which are a significant cause



of morbidity and mortality worldwide (Hajar, 2017).

Heart failure is a prevalent and significant cardiac disorder that necessitates careful consideration. It is a syndrome characterized by a collection of signs and symptoms resulting from a dysfunction of the heart's ability to pump blood (NICE, 2018). Some common contributing factors to heart failure include coronary artery disease, hypertension, atrial fibrillation, valvular heart disease, cardiomyopathy, infection, and excessive alcohol consumption (Mc Donagh et al., 2021)

Heart failure is a severe and potentially fatal condition that can be both common and expensive to treat. It is the leading cause of hospitalization and readmission among older adults and can often lead to more severe health problems than other complex organ failures. (Metra & Teerlink, 2017; Retrum, et al., 2013) Globally, it affected approximately 40 million people in 2015, with a more than 10% prevalence among those over 70 (Disease and Injury Incidence and Prevalence Collaborators, 2016; Metra & Teerlink, 2017). Unfortunately, rates of heart failure are predicted to increase. The risk of death in the first year following diagnosis approximately 35%, which is comparable to some forms of cancer, while the risk of death in the second year is less than 10% for those still alive. (Metra & Teerlink, 2017; National Clinical Guideline Centre, 2010.)

Our review highlights the significance of complying with disease management in individuals with heart failure, given its high incidence, mortality, and morbidity rates. This underscores the importance of taking proactive measures to address the disease, which can have significant impacts on an individual's quality of life. By adhering to appropriate disease management strategies, individuals can mitigate the risks associated with heart failure and improve their overall health outcomes.

PATIENTS' COMPLIANCE WITH DISEASE MANAGEMENT

Heart failure is a prevalent health condition that places a considerable strain on the healthcare system (Nalbantlıgil & Özbaran, 2023; Ziaeian & Fonarow, 2016). Research has revealed that a mere 5% of patients diagnosed with heart failure survive for just four years, and 40% of hospitalized patients either die or require rehospitalization within a year (Omersa et al., 2016; Maggioni et al., 2015; Mozaffarian et al., 2015). The reasons behind patients with heart failure being readmitted are frequently linked to nonadherence to physical activity, dietary recommendations, and medication (Krueger et al.,2015; Hiçerimez, 2019). Reports have indicated that non-adherence rates in HF patients range from 30-80% (Hiçerimez, 2019).

Nonetheless, it is crucial to note that the better patients adhere to their treatment, the higher the chances of recovery. To facilitate the process of patient adaptation, it is imperative to provide them with education regarding their diagnosis while also taking into consideration their personal beliefs and values. Additionally, it is crucial to assess the significance they place on their health and involve them actively in their treatment and



care. Studies have demonstrated that patient education providing positively impacts a patient's ability to cope with their illness, as well as their belief in their ability to manage it. The ultimate goal of patient education is to improve disease management by increasing the patient's knowledge about the illness and promoting adherence to medication and lifestyle changes (Süer, 2018). To ensure the effectiveness of patient education, it is crucial to identify areas where patients struggle with compliance and tailor the training accordingly to address those specific needs.

Heart failure can lead to symptoms that can impair daily life and shorten life expectancy. Healthcare professionals need to assess the patient's needs, monitor their progress, promote adherence to medication and diet, and ensure that the patient comprehends their condition's seriousness to manage it effectively. By improving their adherence to prescribed treatments, patients can cultivate healthy behaviors such as modifying their eating habits, adhering to their medication regimen, self-monitoring, and making lifestyle changes to manage symptoms and improve their quality of life while living with their condition (Riegel ve ark, 2012).

The attitudes and beliefs of individuals play a significant role in determining healthy behavior and can impact the effectiveness of strategies aimed at reducing the risk of disease (Hiçerimez, 2019). Patients with a positive outlook and who believe they can control their disease are more likely to comply with treatment and make positive lifestyle changes (Karaca & Mert, 2011; Riegel

et al., 2012). Research has shown that individuals with congestive heart failure who follow a low-sodium diet and adhere to their medication regimen experience fewer hospitalizations and readmissions (Ashour et al., 2020; Ponikowski et al., 2016; Wessler et al., 2015).

As we know, heart disease is a severe health issue that can be prevented with healthy nutrition and lifestyle habits or treated with medical interventions, nutrition therapy, and lifestyle changes. It is essential for patients to be able to afford self-care to maintain their quality of life after a diagnosis. Kessing et al., (2017) discovered a strong correlation between self-care and quality of life. In a study conducted by Bayrak et al., (2019), examining research conducted in different countries, it was noted that self-care levels varied from inadequate to high, owing to differences in social structure, culture, and implementation of cardiac rehabilitation (Bayrak et al., 2019). Self-care refers to all activities that individuals initiate and execute to sustain life, health, and well-being, including their participation in activities aimed at maintaining their health (Hicerimez, 2019). The European Society of Cardiology (ESC) guideline posits that self-care is integral to successfully treating heart failure (HF). HF symptoms significantly impact functional capacity, general health status, morbidity, and prognosis (Asgar et al., 2016).

Chronic diseases' physical and mental limitations and disabilities reduce an individual's independence, and their need for long-term care limits their perception of health and social activities, causing physical,



psychological, and socio-economic problems while diminishing their quality of life. Improving an individual's quality of life remains one of the primary goals of chronic disease treatment. Therefore, when creating a treatment plan, evaluations of the effects of chronic diseases on the quality of life are emphasized, along with the impact of chronic diseases on the individual. Treatment of the disease must also include interventions to increase the quality of life. In secondary prevention, providing appropriate drug treatment, along with an adequate diet, physical activity, and smoking cessation, is critical. Measuring the quality of life contributes to investigating the effects of treatment and the disease process on the patient's daily life, evaluating these effects from the patient's perspective, developing an approach program that caters to the patient's individual needs by identifying their social, emotional, and physical needs (Duğan & Bektaş, 2020). The literature, however, indicates that chronic diseases that occur throughout life reduce life satisfaction by causing obstacles, strains, conflicts, and sudden adverse changes in various aspects (Yanmış & Mollaoğlu, 2021). The literature also indicates an inverse relationship between life satisfaction and the presence of chronic diseases (Camacho et al., 2019).

Managing CHF can be challenging due to the complex psychosocial problems it causes. Patients may experience loss of control and productivity, fear of death, uncertainties about the future, changes in life plans and goals, changes in family and social circle

relationships, and changes in economic situation. To manage CHF effectively, patients must be informed about the disease and make lifestyle changes while actively participating and cooperating in planned care (Akbıyık, 2016).

Positive and negative emotions can also significantly individual's impact an participation in disease management, life satisfaction, self-care, and overall quality of life. Although loneliness and life satisfaction are both measures of positive emotions, individuals' experiences of joy, satisfaction, pride, compassion, enthusiasm, excitement are also meaningful. Similarly, negative emotions such as guilt, shame, sadness, anger, anxiety, and fear can impact one's overall well-being. Research has consistently shown that life satisfaction is positively associated with positive emotions and negatively related to negative emotions. Moreover, positive and negative emotions have been found to play a developmental and protective role in the relationship between life satisfaction and one's experiences. (Bakalım & Muyan Yılık, 2020; Mert & Kahraman (2020). It has been observed that one's physical and mental well-being is closely linked to positive emotions (Yüksel, 2014). Positive emotions bring about physical changes that positively impact health and overall functionality. For patients with heart failure, self-management is essential to optimize their health outcomes and quality of life. Healthcare providers encourage patients to adhere to medical regimens and monitor their symptoms closely. By identifying positive and negative beliefs about patient



compliance, healthcare professionals can improve self-care behavior. This nonpharmacological approach contributes to treatment, enhances the patient's quality of life, and reduces hospitalizations and economic burdens. (Gagnon et al., 2017; Oğuz et al., 2010).

CONCLUSION

Therefore, it is crucial to prioritize precautions and identify risk factors in patients with heart conditions. This can be achieved by taking a holistic approach, considering the individual's unique circumstances. Encouraging active participation in treatment and fostering a sense of responsibility for one's recovery can lead to improved treatment compliance, better quality of life, stronger self-care beliefs, and increased life satisfaction. Providing patients with relevant information can also empower them to make informed decisions about their health.

REFERENCES

- Akbıyık, A., Koçak, G., & Oksel E. (2016). Kronik Kalp Yetmezliği Olan Hastalarda Öz-Bakım Davranışlarının İncelenmesi. İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 1(2), 1-8.
- Asgar, Pour, H., Gökçe, S., Kunter, D., & Yönem, H. (2016). Kalp Yetersizliği Olan Hastalarda Öz Bakım Davranışlarının Değerlendirilmesi. F.N. Hem. Derg., *24*(2), 66-71.
- Ashour, A., Al-Rawashdeh, S., Alwidyan, M., Al-Smadi, A., & Alshraifeen, A. (2020). Percieved Learning Needs Of Patients With Heart Failure İn Iordan: Perspectives Of Patients, Caregivers, And Nurses. Journal of Cardiovascular Nursing, 35(3), 273-279.

- Bakalım, O., & Muyan, Yılık, M. (2020). Yalnızlık ve Yaşam Doyumu İlişkisinde Pozitif ve Negatif Duyguların Aracı Rolü. Buca Eğitim Fakültesi Dergisi, 50, 125-140.
- Bayrak, B., Yıldırım, G., Oğuz, S., Sağaltıcı, Ç., Doğanay, E., Özdemir, F., et al. (2019). Assessment of Self-Care in Heart Failure Patients and Determination of Factors Affecting. Cardiovasc Nurs., 10(23), 114-121.
- Benjamin, E. J., Blaha, M. J., Chiuve, S. E., Cushman, M., Das, S. R., Deo, R., de Ferranti, S. D., Floyd, J., Fornage, M., Gillespie, C., Isasi, C. R., Jiménez, M. C., Jordan, L. C., Judd, S. E., Lackland, D., Lichtman, J. H., Lisabeth, L., Liu, S., Longenecker, C. T., Mackey, R. H., ... & American Heart Association Statistics and Stroke Committee Statistics Subcommittee (2017). Heart Disease and Stroke Statistics-2017 Update: A Report From the American Heart Circulation. Association. 135(10), e146-e603. https://doi.org/10.1161/CIR.0000000 000000485
- Camacho, D., Lee, Y., Bhattacharya, A., Vargas, L. X., Kimberly, L., & Lukens, E. (2019). High life satisfaction: Exploring the role of health, social integration and perceived safety among mexican midlife and older adults. Journal of Gerontological Social Work, 62(5), 521https://doi.org/10.1080/01634372.20
 - 19.1621975
- Civek, S., & Akman, M. (2022). Dünyada ve Türkive'de kardivovasküler hastalıkların sıklığı ve riskin değerlendirilmesi. Jour Turk Fam Phy, 21-28. 13(1), https://doi.org/10.15511/tjtfp.22.001
- De Backer, G., Ambrosioni, E., Borch-Johnsen, K., Brotons, C., Cifkova, R., Dallongeville, J., Ebrahim, S., Faergeman, O., Graham,



- I., Mancia, G., Cats, V. M., Orth-Gomér, K., Perk, J., Pyörälä, K., Rodicio, J. L., Sans, S., Sansoy, V., Sechtem, U., Silber, S., T., Wood, D. (2003). Thomsen, Society Cardiology European of Committee for Practice Guidelines. European guidelines on cardiovascular disease prevention in clinical practice: third joint task force of European and other societies on cardiovascular disease prevention in clinical practice (constituted by representatives of eight societies and by invited experts). Eur I Cardiovasc Prev Rehabil, 10(4), S1-S10.
- Disease and Injury Incidence and Prevalence Collaborators. (2016) Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 338(10053), 1545-1602. https://doi.org/10.1016/S0140-6736(16)31678-6
- Duğan, Ö., & Bektaş, H. (2020). Turkish Adaptation Study of the Heart Quality of Life Scale in Coronary Artery Patients. *Turk J Cardiovasc Nurs*, *11*(25), 71–81.
- Gagnon, M. D., Waltermaurer, E., Martin, A., Friedenson, C., Gayle, E., & Hauser, D. L. (2017). Patient beliefs have a greater impact than barriers on medication adherence in a community health center. *J Am Board Fam Med*, 30(3), 331-336.
- Hajar, R. (2017). Risk Factors for Coronary Artery Disease: Historical Perspectives. *Heart Views*, *18*(3), 109-114.
- Hiçerimez, A. (2019). Kronik Kalp Yetersizliği Hastalarının Hastalık Yönetimine İlişkin İnanç ve Uyumları ile Öz Bakım Davranışları Arasındaki İlişki [Yüksek Lisans Tezi, İstanbul Medipol Üniversitesi Sağlık Bilimleri Enstitüsü].
- Karaca, S., & Mert, H. (2011). Kalp Yetersizliği Olan Hastaların Hastaneye Tekrar Yatış Sıklığı ve Nedenlerinin İncelenmesi.

- Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 14(3):1-7.
- Kessing, D., Denollet, J., Widdershoven, J., & Kupper, N. (2017). Self-care and Health-Related Quality of Life in Chronic Heart Failure: A Longitudinal Analysis. European Journal of Cardiovascular Nursing, 16(7):605–613.
- Krueger, K., Botermann, L., Schorr, S.G., Griese-Mammen, N., Laufs, U., & Schulz, M. (2015). Age-Related Medication Adherence in Patients With Chronic Heart Failure. *Int J Cardiol*, 184, 728-35.
- Libby, P. (2002). Inflammation in atherosclerosis. *Nature*, 420, 868 874.
- Maggioni, A. P., Dahlström, U., Flippatos, G., et al. (2013). Eurobservational Research Programme: Regional Differences And 1-Year Follow-Up Results of the Heart Failure Pilot Survey. *Eur J Heart Fail*, 15, 808-817.
- McDonagh, T. A., et al., (2021). 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *European heart journal*, 42(36), 3599–3726. https://doi.org/10.1093/eurheartj/eh ab368
- Mendis, S., Puska, P., Norrving, B., Organization, W. H., Federation, W. H., & Organization, W. S. (2011). Global atlas on cardiovascular disease prevention and control. Geneva: World Health Organization http://www.who.int/iris/handle/106 65/44701/01.04.2020
- Mert, A., & Kahraman, M. (2020). Üniversite Öğrencilerinin Benlik Ayrımlaşması, Özgecilik, İç-Dış Kontrol Odağı ve Pozitif-Negatif Duygu Düzeyleri Arasındaki İlişkilerin İncelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 53, 336-369.
- Metra, M., Teerlink, J. R. (2017). Heart failure. *The Lancet.*



- https://doi.org/10.1016/S0140-6736(17)31071-1
- Mozaffarian, D., Benjamin, E. J., Go, A. S. et al. (2015). Heart Disease and Stroke Statistics-2015. *Circulation*, 131(4):29-322.
- Nalbantlıgil, S., & Özbaran, M. (2023). Kalp yetersizliği tanımı, epidemiyolojisi ve doğal öyküsü. In Kerry Z, Yağdı T, (Eds.). *Kalp Yetersizliği ve Tedavisinde Yeni Hedefler* (1. Baskı). Türkiye Klinikleri, p.1-4.
- National Clinical Guideline Centre (2010).

 Chronic Heart Failure: National Clinical
 Guideline for Diagnosis and
 Management in Primary and Secondary
 Care. London: Royal College of
 Physicians (UK).
 https://pubmed.ncbi.nlm.nih.gov/227
 41186/
- NICE. (2018). https://web.archive.org/web/202303 20160417/http://www.ncbi.nlm.nih.g ov/books/NBK536089/
- Nhung, N.T.T., Schindler, C., Chau,, N.O. et al. (2020). Exposure To Air Pollution And Risk Of Hospitalization For Cardiovascular Diseases Amongst Vietnamese Adults: Case Crossover Study. Science of The Total Environment, 703:134637. https://doi.org/10.1016/j.scitotenv.20 19.134637
- Oğuz., S., Enç, N., & Yiğit, Z. (2010). Kronik Kalp Yetersizliği Olan Hastalar İçin İnanç ve Uyum Ölçeklerinin Türkçeye Uyarlanması, *Türk Kardiyoloji Derneği Arşivi*, *38*(7), 480-485.
- Omersa, D., Lainscak, M., Erzen, I., & Farkas, J. (2016). Mortality and Readmissions in Heart Failure: an analysis of 36,824 elderly patients from the Slovenian national hospitalization database. *Wiener Klinische Wochenschrift, 128*(7), 512-518.

- Onat, A., Şurdum-Avcı, G., Şenocak, M., Örnek, E., Gözükara, Y., Karaaslan, Y., Özışık, U., İşler, M., Tabak, F., & Özcan, R. (1991). Türkiye'de erişkinlerde kalp hastalığı ve risk faktörleri sıklığı taraması: 3. Kalp hastalıkları prevalansı. *Türk Kardiyoloji Derneği Arş*, 19, 26-33.
- Onat, A. (2009). TEKHARF Çalışması. http://tekharf.org/2009.html/ 11.12.2020
- Ponikowski, P., Voors, A. A., Anker, S. D., Bueno, H., Cleland, J. G. F. et al. (2016). Guidelines For The Diagnosis And Treatment of Acute And Chronic Heart Failure. *European Heart Journal*, 37, 2129-2200.
- Riegel, B., Lee, C., Ratcliffe, S. J., Geest, S., Potashnik, S., Patey, M. et al. (2012). Predcitors of Objectively Measured Medication Nonadherence in Adults With Heart Failure. *Circulation: Heart Failure*, *5*(4), 430-436.
- Retrum, J. H. et al. (2013). Patient-Identified Factors Related to Heart Failure Readmissions. *Circulation: Cardiovascular Quality and Outcomes,* 6, 171–177.
- Roth, G. A., Huffman, M. D., Moran, A. E., Feigin. V., Mensah, G. A., & Naghavi, M., (2015). Global and regional patterns in cardiovascular mortality from 1990 to 2013. *Circulation*, 132(17), 1667–78.
- Süer, E. (2018). Aile Hekimliği Polikliniğine Başvuran Hipertansiyon Hastalarının Hastalıkları ile İlgili Bilgi, Tutum ve Davranışların Değerlendirilmesi [Tıpta Uzmanlık Tezi, Sağlık Bilimleri Üniversitesi, Ankara].
- T.C. Sağlık Bakanlığı. (2010). Temel Sağlık Hizmetleri Genel Müdürlüğü, Türkiye Kardiyovasküler Hastalıkları Önleme ve kontrol programları, Üçüncül önleme için birincil, ikincil ve stratejik planlar ve eylem planları (2010-2014), 9. Ankara.
- Türkiye İstatistik Kurumu (TÜİK). (2018). Ölüm Nedeni İstatistikleri.



- http://www.tuik.gov.tr/. (Erişim tarihi: 26.12.2021).
- Türk kalp ve damar cerrahisi derneği sağlıklı yaşam koroner arter hastalıkları http://www.tkdcd.org/public/uploads /files/pdf/saglikli_yasam/koroner_art er_hastaliklari.pdf/ 01.04.2020.
- Wessler, J. D., Maurer, M. S., & Hummel, S. L. (2015). Evaluating The Safety And Efficacy Of Sodium-Restricted/Dietary Approaches To Stop Hypertension Diet After Acute Decompensated Heart Failure Hospitalization: Design And Rationale For The Geriatric OUT Of Hospital Randomized Meal Trial İn Heart Failure (GOURMET-HF). American Heart Journal, 169(3), 342-348.
- WHO. (n.d.). *Cardiovascular Diseases*. (https://www.who.int/health-topics/cardiovascular-diseases/#tab=tab_1). (Erişim tarihi: 27.12.2021).
- WHO. (2017). *Cardiovascular diseases* http://www.who.int/mediacentre/factsheets/fs317/en/01.04.2020
- Yanmış, S., & Mollaoğlu, M. (2021). Hemodiyaliz Tedavisi Alan Hastalarda Yaşam Doyumu ve Etkileyen Faktörler. Nefroloji Hemşireliği Dergisi, Journal of Nephrology Nursing16(3): 115-123.
- Yüksel, B. (2014). Yüksek kaygı Belirtilerini Açıklamada Bağlanma, Pozitif ve Negatif Duygu Düzenleme ve Belirsizliğe Tahammülsüzlük Arasındaki İlişkiyi Bütünleyici Model Arayışı [Yüksek Lisans Tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Psikoloji Anabilim Dalı Klinik Psikoloji Bilim Dalı, Ankara].
- Ziaeian, B., & Fonarow, G. C. (2016). Epidemiology and aetiology of heart failure. *Nat Rev Cardiol, 13*(6), 368-378. https://www.doi.org/10.1038/nrcardi o.2016.2