Research Article

THE RELATIONSHIP BETWEEN ANXIETY LEVELS AND SLEEP QUALITY IN CONGESTIVE HEART FAILURE PATIENTS

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Abstract

Congestive Heart Failure is a medical condition characterized by a set of clinical symptoms, such as shortness of breath and excessive fatigue.In individuals with congestive heart failure, worsening symptoms often trigger fear. This fear is often expressed in various forms, one of which is anxiety. When this anxiety becomes excessive, it can negatively impact the sufferer's sleep quality. Determine the relationship between anxiety levels and sleep quality in patients with congestive heart failure at Mitra Medika Tanjung Mulia General Hospital in 2025. Using an analytical survey method with a cross-sectional approach using the chi-square test, the population in this study was 88 respondents with congestive heart failure. The sampling used was purposive sampling, namely sampling for a purpose by determining certain characteristics that represent the population, sampling using the slovin technique totaling 88 respondents. The probability significance value (Asymp.Sig) is p-value = 0.030 < sign α = 0.05, this proves that there is a Relationship between Anxiety Level and Sleep Quality in Congestive Heart Failure Patients at Mitra Medika General Hospital Medan in 2025. Statistically, there is a Relationship between Anxiety Levels and Sleep Quality in Congestive Heart Failure Patients at Mitra Medika Tanjung Mulia General Hospital, Medan in 2025. It is hoped that after receiving education, patients with Congestive Heart Failure (CHF) will be able to overcome the anxiety they experience and improve their sleep quality disorders.

Keywords: Anxiety Level, Sleep Quality, Congestive Heart Failure (CHF).

Background

Congestive Heart Failure (CHF) is a complex medical condition characterized by a collection of clinical symptoms, such as shortness of breath and excessive fatigue. These symptoms can appear during physical activity or at rest. This disease reflects the heart's inability to pump blood effectively throughout the body, which is generally caused by disorders in the structure or function of the heart itself (1). Weak heart function in people with CHF can stem from various conditions that disrupt the heart's working mechanism, particularly in filling the heart chambers (ventricles) with blood and the ability of the heart muscle (myocardium) to contract optimally (2).

According to*World Health Organization*According to the World Health Organization (WHO), congestive heart failure is one of the leading causes of death worldwide in 2021, with approximately 17.8 million deaths annually, equivalent to one in three deaths globally. Interestingly, the majority, approximately 75% of these deaths, occur in low- and middle-income countries, which generally have limited access to adequate cardiovascular health services (WHO, 2022).(2).

Based on basic health research (Riskesdas) data from 2013 to 2018, there was an increasing trend in the prevalence of heart disease in Indonesia, from 0.5% to 1.8% in 2018, reflecting an increasing burden of cardiovascular disease in the community. Meanwhile, the 2015 Hospital Information System (SIRS) report noted that the number of congestive heart failure patients undergoing hospitalization was higher in men (25,508 cases) than in women (24,507 cases). Central Java, the province with the highest number of hospitalizations for congestive heart failure in Indonesia, was the highest (8,658 cases) (Ministry of Health, 2022).(3).

The prevalence of heart failure in Indonesia is recorded at 1.5%, indicating that this disease remains a fairly serious public health problem. Meanwhile, based on doctor's diagnoses in North

Sumatra Province, it reached 1.3% in men and 1.6% in women, indicating little difference between genders in the incidence of this disease (Fatimah, Nurmainah, & Fajriaty, 2019). Meanwhile, according to a report from Malahayati Hospital in Medan, throughout 2023 there were 583 cases of hospitalization due to congestive heart failure, further evidence that the burden of this disease is quite high in healthcare facilities, particularly in Medan and the surrounding area (Malahayati Hospital, Medan, 2023).(4).

Congestive heart failure is a disorder of heart function in which the heart is unable to pump blood optimally to meet the metabolic needs of all body tissues. Without adequate metabolic activity, patients experience discomfort. Furthermore, congestive heart failure causes circulatory obstruction, which disrupts fluid accumulation in the body, including the lungs.(5). Symptoms that appear due to heart failurecongestiveThese symptoms include shortness of breath (dyspnea), difficulty breathing while lying down (orthopnea), and sudden shortness of breath at night, known as paroxysmal nocturnal dyspnea (PND). In addition, sufferers often experience intolerance to physical activity, fatigue, and swelling in the ankles.

These symptoms are often accompanied by additional complaints such as weight gain due to fluid retention, a feeling of palpitations, and decreased appetite, which can worsen the patient's general condition.(6).

Patients with congestive heart failure experience various physical and psychological changes. These physical changes include decreased cardiac output, which can be recognized through symptoms such as oliguria (decreased urine production), tachycardia (rapid heartbeat), palpitations (pounding heart rate), pale skin, and weakened peripheral pulses. Furthermore, pulmonary congestion causes physical changes such as shortness of breath (dyspnea) and rapid breathing (tachypnea). Other physical symptoms include persistent edema (swelling that doesn't go away), jugular venous distension (enlargement of the neck veins), and abdominal distension. Psychological problems that arise in patients with congestive heart failure include ongoing stress, excessive anxiety, feelings of helplessness, fear of worsening conditions, and depression, which can disrupt overall quality of life.(7).

Heart failure managementcongestiveIt has the important goal of preventing the worsening of a patient's heart condition. It is hoped that patients will be able to consistently perform self-care, such as engaging in appropriate physical activity to maintain a stable body condition and avoiding various factors that can exacerbate the disease.and have the ability to recognize early signs of worsening symptoms of congestive heart failure.. Adherence to treatment is also a crucial aspect in maintaining a good quality of life for patients. However, it is estimated that only 20-60% of patients are truly compliant with their heart failure treatment.congestive (8).

Anxiety experienced by most patients with heart failure congestive heart failure is generally caused by difficulty maintaining adequate oxygenation, often resulting in shortness of breath accompanied by restlessness and discomfort. This condition causes severe anxiety, especially during acute attacks, which require immediate treatment in the form of supplemental oxygen to increase oxygen saturation and psychological support.(9).

Anxiety is a warning signal that functions to inform individuals about potential dangers that may occur, and enables a person to take action to overcome the threat. This anxiety is a normal and adaptive response.(6).

Triggers for stress or anxiety can come from threats to physical integrity, including physiological disorders or a decrease in the ability to carry out daily routine activities independently.In addition, stress can also arise due to threats to the self-system, which has the potential to damage personal identity, reduce self-esteem, and disrupt social functions that have been integrated into the individual's life as a whole.(25).

Heart failure suffererscongestiveOften experiencing hypersomnia during the day, but sleep poorly or frequently waking up at night due to shortness of breath. These sleep disorders can include sleep-disordered breathing (SDB), difficulty maintaining sleep (DMS), and excessive daytime sleepiness (EDS), which are more common in older adults with heart failure.congestive(Johansson et al. 2010)(10).

Sleep quality is the sleep condition experienced by an individual, which allowsThey wake up feeling refreshed and refreshed. Various factors can affect a person's sleep quality, including deteriorating health, an unsupportive environment, an unhealthy lifestyle, emotional stress, low motivation, the use of certain medications, and excessive fatigue. These factors can interact and worsen sleep quality, disrupting the body's recovery process during sleep.(6) (22)

The results of the initial survey conducted on November 2, 2024, the data obtained by researchers, in cases of congestive heart failure at Mitra Medika Tanjung Mulia Medan General Hospital. Based on medical record data at Mitra Medika Tanjung Mulia Medan General Hospital,

the results obtained in 2023 were the total number of CHF sufferers in one year as many as 2258 cases while in 2024 the total number of CHF sufferers in ten months was 2224 cases, meanwhile the researchers concluded to take data in the last three months in 2024 from August to October 2024, there were 767 CHF sufferers then the researchers calculated the population of CHF sufferers using the Slovin formula then the results obtained by researchers were 88 respondents.

Based on the results of interview samples conducted by researchers on congestive heart failure patients in the heart and blood vessel disease clinic at Mitra Medika Tanjung Mulia General Hospital Medan, data was obtained that of 10 patients suffering from congestive heart failure, six out of 10 patients said they experienced feelings of anxiety due to the heart disease, of the six patients, one of them said the anxiety felt was on a moderate scale and five other patients said the anxiety felt was on a mild scale.

The remaining nine out of 10 patients said they did not experience sleep pattern disturbances, chest pain, or shortness of breath because they were still taking medication as prescribed by their doctor and regularly had monthly health check-ups. One out of 10 patients said they experienced sleep pattern disturbances due to a persistent cough that did not go away and shortness of breath. Based on the background, the purpose of this study was to determine the relationship between anxiety levels and sleep quality in patients with congestive heart failure at Mitra Medika Tanjung Mulia General Hospital, Medan in 2025.

Method

The research design is an analytical survey with a cross-sectional design. The location of the research is in the heart and blood vessel disease polyclinic. Tanjung Mulia Medan Deli District in 2025. The population in this study were CHF patients who were treated in the Heart and Blood Circulation Specialist Polyclinic of Mitra Medika Medan Tanjung Mulia General Hospital and the population in this study was 767 patients from August to October 2024. Samples were taken referring to the Slovin formula. The sample used in this study was 88 patients. This statistical test aims to examine the relationship between the two variables.

Results and Discussion

Cross Tabulation of the Relationship between Anxiety Level and Sleep Quality in Congestive Heart Failure.

Anxiety Level	Sleep Quality		Amount	*P-Value*
	Pretty good	Not good		
	f	f	f	
No Anxiety	1 (1.1 %)	1 (1,1%)	2 (2,3 %)	
Mild Anxiety	8 (9.1%)	8 (9,1%)	16 (18,2 %)	0.030
Moderate Anxiety	11 (12.5%)	39 (44,3%)	50 (56,8 %)	
Severe Anxiety	11 (12.5%)	9 (10,2%)	20 (22,7 %)	
Total	**35,2**	**64,8**	**100.0**	

Cross tabulation above shows that from 88 respondents between anxiety level and sleep quality in congestive heart failure patients, it is known that the level of anxiety that there is no anxiety with good enough sleep quality is 1 respondent (1.1%), the level of anxiety that there is no anxiety with poor sleep quality is 1 respondent (1.1%), the level of anxiety that is mild anxiety with good enough sleep quality is 8 respondents (9.1%), the level of anxiety that is mild anxiety with poor sleep quality is 8 respondents (9.1%), the level of anxiety that is moderate anxiety with good enough sleep quality is 11 respondents (12.5%), the level of anxiety that is moderate anxiety with poor sleep quality is 39 respondents (44.3%), the level of anxiety that is severe anxiety with good enough sleep quality is 11 respondents (12.5%), the level of anxiety that is severe anxiety with poor sleep quality is 9 respondents (10.2%).

Based on the test results *chi-square*shows that the significant value of the probability of anxiety levels with sleep quality is sign-p = 0.030 or < sign value α = 0.05. This proves that there is a significant relationship between the Relationship of Anxiety Levels with Sleep Quality in Patients with Congestive Heart Failure.

Discussion

The results of a study using the chi-square test, obtained a significant value or sign-p value = 0.030 or < sign value α = 0.05. This proves that there is a significant relationship between the Relationship of Anxiety Levels with Sleep Quality in Patients with Congestive Heart Failure.

This research aligns with the discussion of anxiety levels and sleep quality, as described in a journal published by Karmitasari Yanra Katimenta et al., that psychological stress can trigger mental tension. When ill, individuals typically require more sleep than usual. However, the sleep-wake

cycle during illness can also be disrupted. Emotional stress and anxiety can stimulate the sympathetic nervous system, which then increases blood levels of norepinephrine.

As a result, stage IV NREM sleep is reduced, and REM sleep is often interrupted by nighttime awakenings. In middle adulthood, sleep quality tends to decline as overall sleep duration decreases. Furthermore, the frequency of stage IV sleep also decreases. At this age, stress and life changes often trigger sleep disorders. To overcome sleep difficulties, many people use sleeping pills as a solution to fall asleep faster.

This study aligns with research conducted by Z. Mitia Eka Wati et al. (2020) entitled: "The Relationship Between Anxiety Levels and Sleep Quality in Patients with Congestive Heart Failure (CHF). The Spearman rank test showed a p-value of 0.004, which is below the significance level of α=0.05. These results indicate a relationship between anxiety levels and sleep quality. This suggests that heart failure patients tend to experience sleep disturbances triggered by their anxiety levels.This study aligns with research conducted by Windi Sisniah et al. (2021) at the Kelapa Gading District Community Health Center. The statistical test results obtained a p-value of 0.002 <α (0.05), which indicates a relationship between anxiety levels and sleep quality in patients with congestive heart failure.

This study is in line with research conducted by Medika Cendikia (2016) on the Relationship between Patient Characteristics and Anxiety in Congestive Heart Failure Patients in the Inpatient Ward of Dr. Slamet Garut General Hospital, which showed that the majority of respondents were elderly, female, had an elementary school education, and were unemployed. Most of them experienced moderate levels of anxiety. However, the results of this study showed that there was no relationship between respondent characteristics such as age, gender, occupation, and education with anxiety in congestive heart failure patients.

Suggestion

The results of the study are expected to be used as input and information to patients suffering from congestive heart failure. It is hoped that patients will get information about the factors that influence anxiety and efforts that can be made to get anxiety to be mild, even if necessary normal.

Bibliography

1. Rahmadon Ae, Kusumajaya H, Arjuna A. Faktor–Faktor Yang Berhubungan Dengan Kejadian Gagal Jantung Kongestif. Altra J Keperawatan Holistik. 2024;1(2).
2. Rahmadon Ae, Kusumajaya H, Arjuna. Faktor – Faktor Yang Berhubungan Dengan Kejadian Gagal Jantung Kongestif. Altra J Keperawatan Holistik. 2024;1(5862):55–62.
3. Adolph R. Gambaran Pengetahuan Tentang Perilaku Perawatan Diri Pada Pasien Gagal Jantung. 2016;6:1–23.
4. Sagala Le, Ahsani A. Pemberian Teknik Alih Baring Pada Ny . S Dengan Gangguan Sistem Kardiovaskular Congestive Heart Failure Dengan Masalah Keperawatan Risiko Gangguan Kerusakan Integritas Kulit. 2024;(4).
5. Murda A, Listyarini A, Nadia Aprilia, Nur Leana Dinindya, Taufiqurrohman, Wafda Nailil Muna. Literature Review: Faktor Yang Berkaitan Dengan Kejadian Congestive Heart Failure (Chf). J Kesehat Dan Kedokt. 2023;2(2):38–49.
6. Mitia Eka Wati Z, Oktarina Y, Rudini D. Hubungan Tingkat Kecemasan Dengan Kualitas Tidur Pada Pasien Gagal Jantung Kongestif(Chf). J Ilm Ners Indones. 2020;1(1):46–57.
7. Salsabila Mp, Nugroho Ha. Penurunan Kecemasan Pada Pasien Gagal Jantung Kongestif Melalui Pemberian Terapi Murottal Al-Qur'an. Ners Muda. 2021;2(3):148.
8. Hopper Cl. Hubungan Tingkat Kecemasan Dengan Mekanisme Koping Pada Pasien Gagal Jantung Kongestif Diruangan Cvbc (Cardio Vaskuler Brain Centre) Lantai Iii Di Rsup. Prof. Dr. R. D. Kandou Manado. Notes Queries. 1857;S2-Iii(68):306.
9. Puspita Dewi I. Kualitas Tidur Pasien Gagal Jantung Dan Penanganannya. J Keperawatan Komprehensif (Comprehensive Nurs Journal). 2017;3(1):18–24.
10. Hilwa Ns, Rachmiyani I, Pramana C. Hubungan Anemia Pada Ibu Hamil Dengan 1Antropometri Bayi Baru Lahir. J Kesehat Reproduksi. 2020;7(2):67.
11. Nitasari Aj, Widaryati Sk, Prihatiningsih D. Kecemasan Pada Pasien Gagal Jantung: Literature Review. 2021; Available From: Http://Digilib.Unisayogya.Ac.Id/5502/

12. Hardianti T, Andriati R, Wahyuni V. Hubungan Ansietas Dengan Kualitas Hidup Pasien Gagal Jantung Di Rs Jantung Dan Pembuluh Darah Harapan Kita 1. 2024;1(1):141–57.
13. Bannepadang C, Manginte Ab, Pataban Fs. Rumah Sakit Elim Rantepao Tahun 2023 Gagal Jantung Kongestif (Congestif Heart Failure) Merupakan Sindrom Klinis Yang Ditandai Dengan Ketidak Mampuan Jantung Untuk Memompa Darah Yang Cukup Untuk Memenuhi Kebutuhan Oksigen Dan Nutrisi Pada Jaringan Tubuh . 2023;2926.
14. Nugroho, S.Kep.Ns., Mns Fa. Tingkat Kualitas Tidur Pada Pasien Gagal Jantung Kongestif (Chf) Dengan Posisi Tidur Semi Fowler, Semi Fowler Miring Kanan, Dan Semi Fowler Miring Kiri Di Rumah Sakit Pku Muhammadiyah Gombong. J Ilm Kesehat Keperawatan. 2019;15(1):40.
15. Ananda Muhamad Tri Utama. Posisi Tidur Dengan Kualitas Tidur Pasien Congestive Heart Failure Di Rumah Sakit (Literature Review). 2022;9(2):356–63.
16. Sisilia Hani Oktavira Dh. Hubungan Aktivitas Fisik Dengan Kualitas Tidur Pada Pasien Gagal Jantung. 2023;15:279–88.
17. Katimenta Ky, Carolina M, Kusuma W. Hubungan Tingkat Stres Dengan Kualitas Tidur Pada Pasien Congestive Heart Failure (Chf) Di Ruang Iccu Dr. Doris Sylv Vanus Palangka Raya. J Keperawatan [Internet]. 2016;7(1):241–6. Available From: Http://Jurnal.Fai-Umj.Ac.Id/Index.Php/Jammima/Article/View/94. Diakses 18 Januari 2019.
18. Windi Sisniah1 Di. Hubungan Tingkat Kecemasan Dengan Kualitas Tidur Pada. J Pustaka Kesehat. 2021;11(3):176–82.
19. Sulastini. Hubungan Karakteristik Pasien Dengan Kecemasan Pada Pasien Gagal Jantung Kongestif Di Ruang Rawat Inap Rsu Dr. Slamet Garut. Med Cendikia [Internet]. 2016;3(1):9–16.
20. Harlina, Aiyub. Faktor-Faktor Yang Mempengaruhi Tingkat Kecemasan Keluarga Pasien Yang Dirawat Di Unit Perawatan Kritis. Jim Fkep. 2018;3(3):192–200.
21. Dhamayanti D, Kumara Ar, Hartanto, Santoso B, Prasetyorini Da. Cara Mengukur Tingkat Kecemasan Siswa Pkl (Praktik Kerja Lapangan) Menggunakan Skala Hars. 2023;27. Available From: Https://Eprints.Uad.Ac.Id/39451/1/Ok-Bukucara Mengukur Kecemasan Hars.Pdf
22. Suchi Aulia Nur Silmi, Ieva B. Akbar, Sara Puspita. Perbedaan Tingkat Kecemasan Orang Tua Anak Penderita Leukemia Sebelum Dengan Sesudah Kemoterapi. J Ris Kedokt. 2023;12–8.
23. Yesni M. Pengaruh Terapi Posisi Lateral Kanan Terhadap Kualitas Tidur Pasien Gagal Jantung Di Rsup M Djamil Padang. J Akad Baiturrahim Jambi. 2019;8(1):117.
24. Yadi N, Hidayat R, Studi Ps, Universitas Pahlawan Tuanku Tambusai K. Hubungan Antara Kualitas Tidur Dengan Kejadian Acne Vulgaris Pada Siswa/I Di Sma Negeri 1 Tambang Kabupaten Kampar Provinsi Riau Tahun 2021. Sehat J Kesehat Terpadu [Internet]. 2022;1(1):1–8. Available From: Http://Journal.Universitaspahlawan.Ac.Id/Index.Php/S-Jkt/Article/View/7380
25. Septiarini A, Andayani Sa, Sholehah B. Penerapan Sleep Hygiene Pada Pasien Congestive Heart Failure (Chf) Dengan Gangguan Pola Tidur Di Ruang Tulip Lantai 2. 2024;1(3):622–8.
26. Mandias Rj, Tuerah K. Paparan Sinar Matahari Dengan Kualitas Tidur Mahasiswa Keperawatan. Nutr J. 2024;8(1):71.
27. Dr. Erwin Handoko, M.Ed. Pd. Buku Monograf:Kajian Hubungan Pencapaian Akademik Dengan Tingkat Stres Dan Kualitas Tidur Pada Mahasiswa Fakultas Kedokteran Dalam Masa Pandemi Covid-1. 1st Ed. Refi Ikhtiari; Ph.D, Editor. Medan: Unpri Pressanggota Ikapi; 2022. 57 P.