PROVIDING THE HAND HELD FAN TECHNIQUE TO OVERCOMESHORTNESS OF BREATH WITH THE NURSING PROBLEM OF DECREASED CARDIAC OUTPUT IN CHF PATIENTS IN THE KRISAN ROOM ARIFIN ACHMAD HOSPITA RIAU PROVINCE

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Abstract

Abstract: Congestive Heart Failure (CHF) is a complex clinical syndrome that can cause structural or functional heart problems. This then affects the ventricles' ability to fill or pump enough blood to meet the body's metabolic needs. Heart failure can present with a variety of symptoms in patients, such as shortness of breath, fatigue, and chest pain. A non-pharmacological method for reducing shortness of breath is therapy using a handheld fan to circulate air to the area innervated by the second or third branch of the trigeminal nerve. Objective: This study aims to see the effectiveness of hand-held fans in reducing the frequency of shortness of breath in CHF patients. Purpose: This study aims to see the effectiveness of handheld fan to reduce the frequency of shortness of breath in CHF patients. Method: This study is a case study with a descriptive approach. The sample in this case study consists of two individuals, namely Mr. A aged 56 years experiencing shortness of breath, fatigue, chest pain, heavy breathing during activities. and Mr. R aged 56 years complaining of shortness of breath, fatigue, chest pain, heavy breathing during activities, there is swelling in the abdomen, both upper and lower extremities. Results: This study shows that there is a change in the frequency of breathing in Mr. A from a frequency of 25x / minute to 20x / minute and Mr. R from 23x / minute to 19x / minute. Conclusion: There is a change in the frequency of breathing before and after the administration of the handheld fan technique.

Keywords: Congestive Heart Failure, Hand Held Fan, Shortness Of Breath

INTRODUCTION

According to the World Health Organization (2024), there are 64.3 million cases of CHF worldwide, with an estimated 960,000 cases of heart disease occurring annually. It is estimated that 19.8 million people, with a prevalence of 32%, are responsible for the total number of deaths due to CHF. Most individuals diagnosed with CHF are likely to die within five years of diagnosis. Based on data from the 2023 Indonesian Health Survey (SKI), there were 877,531 cases of CHF in Indonesia. The highest prevalence of cases in the provinces is in West Java (1.18%), East Java (0.88%), and Riau Province (0.12%), with a population of 100,000, where approximately 12-20 people are diagnosed with CHF each year.

Heart failure can present with a variety of symptoms in patients. Common symptoms include shortness of breath, fatigue, and chest pain. Left-sided heart failure often causes pulmonary congestion, which triggers symptoms such as shortness of breath, especially at night, coughing, and fatigue. On the other hand, right-sided heart failure usually causes fluid buildup in the body, resulting in swelling in the lower extremities and impaired function of other organs.

Non-pharmacological nursing management for patients with shortness of breath includes several interventions, such as adjusting body position, limiting limb activity, adequate rest, creating a comfortable environment, using compresses, breathing relaxation techniques,

distraction techniques, as well as therapeutic touch and the use of a handheld fan to improve patient comfort. One non-pharmacological method for reducing shortness of breath is therapy using a handheld fan to circulate air to the area innervated by the second or third branch of the trigeminal nerve. This therapy helps reduce the sensation of shortness of breath by stimulating cold receptors in the nasal or oral mucosa, which then reduces impulses from the respiratory center.

Non-pharmacological nursing management for patients with shortness of breath includes several interventions, such as adjusting body position, limiting limb activity, adequate rest, creating a comfortable environment, using compresses, breathing relaxation techniques, distraction techniques, as well as therapeutic touch and the use of a handheld fan to improve patient comfort. One non-pharmacological method for reducing shortness of breath is therapy using a handheld fan to circulate air to the area innervated by the second or third branch of the trigeminal nerve. This therapy helps reduce the sensation of shortness of breath by stimulating cold receptors in the nasal or oral mucosa, which then reduces impulses from the respiratory center. (handheld fan) to circulate air to the area innervated by the second or third branch of the trigeminal nerve. This therapy helps reduce the sensation of shortness of breath by stimulating cold receptors in the nasal or oral mucosa, which then reduces impulses from the respiratory center. Sari et al., (2023) showed that the subjects used were CHF patients experiencing shortness of breath. Data analysis was carried out using descriptive analysis. The results of the application showed that after administering a handheld fan for 1 day, the respiratory frequency before application was 30 x / minute and after application decreased to 29 x / minute. The conclusion is that the application of a handheld fan will effectively reduce shortness of breath in CHF patients. and Rifaldi et al., (2025) recommend fan therapy to reduce shortness of breath. Patients who experience shortness of breath tend to feel more comfortable being near an open window or in front of a fan. This study tested the effectiveness of using a handheld fan to reduce the sensation of shortness of breath. The results showed that the airflow from a handheld fan was effective in reducing shortness of breath.

RESEARCH METHOD

The research method used is descriptive research with a case study approach in the form of nursing care. This case study was conducted from 16-28 September. The sampling method was purposive sampling. The subjects of this case study were inpatients taken as 2 CHF patients. With inclusion criteria: 1) willing to be respondents and have agreed to informed consent, 2) patients with a diagnosis of CHF, 3) patients with complaints of shortness of breath with a respiratory frequency range of 26-30 x / minute. Exclusion criteria: 1) patients with complications, 2) patients with severe shortness of breath. The type of fan used was a high-speed LED mini portable fan measuring 17x5.8x6.5 cm. with gear speed 1 (25 speed). The research instrument used was medical surgical nursing care. The analysis used was descriptive analysis starting from the preparation stage, implementation stage, to the final stage. Data analysis was carried out after data collection. The sequence of the analysis process is data collection (interviews, observations, and documentation studies), data reduction, data presentation using the nursing process (assessment, diagnosis, intervention, implementation, and evaluation), and conclusions.

RESEARCH RESULTS

The results of this case management were obtained over three days using a nursing process approach consisting of assessment, nursing diagnosis, nursing interventions, nursing

implementation, and nursing evaluation. The assessment was conducted using interview techniques, observation, and physical examination. The assessment took place on Tuesday, September 26, at 10:00 a.m. Western Indonesian Time. This was followed by the administration of handrail fan techniques from Tuesday to Friday, October 19, 2025, at 11:00 a.m. Western Indonesian Time at Arifin Achmad Regional General Hospital Riau.

On the first day, the author immediately administered the hand heeld fan technique to Mr. A for 5 minutes. After the procedure was carried out, the respiratory frequency was evaluated, which showed that there was a reduction in respiratory frequency. The author then carried out the same procedure on Mr. R. On the first day, the author immediately administered the hand heeld fan technique to Mr. R for 5 minutes. After the procedure was carried out, the respiratory frequency was evaluated, which showed that there was a change in respiratory frequency. After the first day, administration was continued for 3 consecutive days. The results of applying the hand held fan technique showed changes in respiratory frequency before and after administration.

Tabel 1. Laporan frekuensi nafas sebelum dan sesudah pemberian tehnik *hand hield fan*

Hari/ Tanggal	Nama Pasien	Pre-Test	Post-Test
Rabu, 16 September 2025	Tn A	26x/menit	23x/menit
Kamis, 17 September 2025	Tn. A	25x/menit	22x/menit
Jumat, 18 Sepetember 2025	Tn A	25x/menit	20x/menit
Hari/ Tanggal	**Nama Pasien**	**Pre-Test**	**Post-Test**
Rabu, 26 September 2025	Tn R	24x/menit	21x/menit
Kamis, 27 September 2025	Tn. R	25x/menit	22x/menit
Jumat, 28 Sepetember 2025	Tn R	23x/menit	19x/menit

Source: Primary Data

DISCUSSION

After administering the hand heeld fan technique, there was a change in respiratory frequency where on the first day on Mr. A, September 16, it was from 26x/minute to 23x/minute. On the second day, the respiratory frequency before administration was 25x/minute to 22x/minute. And on the last day, namely day 3, the respiratory frequency before administration was 25x/minute to 20x/minute after administering the hand heel fan technique.

While on Mr. R, on the first day on Mr. R, September 26, it was from 24x/minute to 20x/minute. On the second day, the respiratory frequency before administration was 25x/minute to 22x/minute. And on the last day, namely day 3, the respiratory frequency before administration was 23x/minute to 19x/minute after administering the hand heel fan technique

CONCLUSION

The use of hand-held fans as a non-pharmacological therapy has been shown to be effective in reducing symptoms of shortness of breath in patients with congestive heart failure (CHF). Although symptoms may still be felt, this therapy can reduce the intensity and frequency of episodes. With proper application, hand-held fan therapy can provide optimal results in reducing symptoms of shortness of breath in CHF patients

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