

# Implementation of Deep Breathing Exercise Therapy to Reduce Fatigue Levels with GGK at Banyumas Hospital : Case Study



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## ABSTRACT

**Introduction:** Deep Breathing exercise is a breathing exercise with slow and deep breathing techniques, using the diaphragm muscle, allowing the stomach to be lifted slowly and the chest to be fully expanded. **Purpose:** To analyze the effect of deep breathing exercise to reduce fatigue levels of clients with CKD. **Result:** The results showed that the TTV examination before the intervention was given was BP 170/97 mmHg, RR 24x/minute, HR 76x/minute, and the FACIT Fatigue Scale score was 34 (mild weakness). Then, in the re-evaluation of TTV and fatigue after being given breathing exercises, the results were BP 159/95 mmHg, RR 20x/minute, HR 80x/minute, and the FACIT Fatigue Scale score was 48 (none). **Conclusion:** Providing intervention of deep breathing exercises for 1x4 hours is effective in reducing fatigue in CKD patients.

**Keywords:** Deep Breathing Exercise, fatigue, CKD

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## INTRODUCTION

Chronic renal failure is a structural damage and decreased kidney function that can affect the kidneys' inability to maintain balance and integrity in the body (Amerifan kidney fund 2021). In 2018 according to the Indonesian Nephrology Association (Pernefri) the number of GGK patients undergoing dialysis increased by 10% every year, largely due to low public awareness of kidney health. This is evidenced by an increase in the number of hemodialysis patients from 77,892 people in 2017 to 132,142 people in 2018 and 499 people per million in 2019 (Varwati 2020).

One of the things that GGK pasien often complains about is feeling exhausted. This is one of the most common side effects of hemodialysis. Some studies show that as many as 71% - 92.2% of GGK patients experience fatigue. Various conditions that can cause fatigue such as uremia, anemia, malnutrition, depression and lack of physical activity. When the patient experiences uremia can cause nausea vomiting and decreased appetite resulting in loss of energy

and protein, it makes the patient experience fatigue (Brunner & Suddarth 2015) in (Djamaludin, et.al 2021). Based on the description above, the author is interested in implementing a deep breathing exercise nursing to reduce the level of patient fatigue at the IGD of Banyumas Hospital.

## METHOD

The research method used in this study is the case study method. Method by applying evidence-based practice to events found in the IGD of Banyumas Regional Hospital. GGK (Mrs.A) patients who experienced complaints of fatigue were given nursing interventions in the form of deep breathing exercise therapy. The administration of therapy aims to reduce the level of fatigue in Mrs.A. Therapy is carried out 1x20 minutes for 5 cycles (1 cycle lasting 4 minutes with 20x the action of deep breathing exercise) interspersed with short rest breaks each cycle for 2 minutes.

## RESULT

### Case Overview

Before being given the implementation of deep

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breathing exercises, researchers need to measure TTV and patient weakness levels. Measurement of weakness levels was carried out with the Functional Assessment of Chronic Illness Therapy (FACIT) Fatigue Scale (Version 4). After being given a deep breathing exercise intervention the researcher will re-measure the TTV and the patient's level of weakness. Then researchers compared the results of the intervention.

**Table 1. Monitoring of Mrs.A's fatigue level**

Before deep breathing exercise therapy		After being given deep breathing exercise therapy	
Selasa, 05 Juli 2022/08.00 WIB		Selasa, 05 Juli 2022/11.00 WIB	
Tekanan darah	: 170/97 mmHg	Tekanan darah	: 159/95 mmHg
Nadi	: 76x/menit	Nadi	: 80x/menit
RR	: 24x/menit	RR	: 20x/menit
Saturasi oksigen	: 99%	oksigen	: 99%
FACIT Fatigue Scale	: 34 (kelemahan ringan)	FACIT Fatigue Scale	: 48 (tidak ada kelemahan)

After deep breathing exercise therapy, there was a change in the TTV value and FACIT Fatigue Scale score. The results of this intervention prove that deep breathing exercise therapy can help reduce the level of weakness of patients.

## DISCUSSION

Deep breathing exercise therapy is one of the natural complementary therapies and is part of a holistic selfcare strategy to overcome various complaints such as fatigue, pain, sleep disorders, stress and anxiety (Fari et al., 2019).

The implementation results showed that after the patient was given a 1x20-minute deep breathing exercise therapy to Mrs.A, the results of a change in TTV values and a decrease in fatigue levels from mild weakness to no weakness. This is in line with research conducted by Pertiwi & Prihati (2020) showing a significant influence of giving deep breathing exercise therapy to GGK patients who experience fatigue. Deep breathing exercise therapy can reduce fatigue because the therapy is able to reduce oxidative stress, thereby increasing cellular energy, increasing the elasticity of blood vessels and improving the circulation of the entire tissue so that the body can produce energy which can later reduce or overcome fatigue. Another study conducted by Putra et.al (2021) showed a decrease in fatigue in GGK patients with the result of a fatigue level score before therapy, namely 19 (fatigue) and a score after therapy to 35 (no fatigue).

In line with Hasanah & PH (2021) which intervened in slow deep breathing to 56 respondents of patients with GGK who underwent hemodialysis, there were significant differences in fatigue scores before and after slow deep breathing (p value 0.000). Based on the results of the study, there was a change in the fatigue level score which was 25.79 (severe fatigue) to 35.00 (mild fatigue) in the

intervention group after slow deep breathing. Physiologically, slow deep breathing techniques can stimulate the parasympathetic nervous system to increase endoprin production, lower heart rate, increase lung expansion so that it can develop optimally so that the muscles relax and also make our body get an adequate supply of oxygen which is very important in the respiration and circulation system of the body. The incoming oxygen will be supplied to all tissues so that the body can produce energy and reduce fatigue levels (Jafar 2019).

## CONCLUSION

There was a decrease in fatigue levels after being given intervention in patients during 1x4 hours of implementation. The results of the TTV examination before intervention were TD 170/97 mmHg, RR 24x/min, HR 76x/minute, and FACIT Fatigue Scale score was 34 (mild weakness). Then in the re-evaluation, TTV measurements were carried out and measurements of fatigue levels after being given deep breathing exercise obtained TD results of 159/95 mmHg, RR 20x / minute, HR 80x / minute, and FACIT Fatigue Scale scores were 48 (no weakness).

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