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Hypnotherapy Intervention on Pain Scale Level of Arteriovenous Fistula Cannulation in Haemodialysis Patients with Chronic Renal Failure

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ABSTRACT

This study aims to determine the effectiveness of hypnotherapy intervention on the level of pain scale of arteriovenous fistula cannulation installation in haemodialysis patients with chronic renal failure. This research method is quasi experimental (one pre-post group desaign). The sample of this study was chronic renal failure patients in arteriovenous fistula cannulation access insertion totalling 45 respondents using total sampling technique. The results obtained before hypnotherapy were 11 respondents (24.4%) experienced a mild pain scale level response, 34 people (75.66%) experienced a moderate pain scale level response while after hypnotherapy intervention showed all 45 respondents (100%) with a mild pain scale with a P value of 0.000 (α <0.05). In conclusion, hypnotherapy intervention can significantly reduce or eliminate pain during arteriovenous fistula cannulation in haemodialysis

INTRODUCTION

Chronic renal failure patients rely heavily on hemodialysis therapy to replace their kidney function (Zhao,S.,Tian,R.,Wu J, et all, 2021). Hemodialysis is a standard procedure for chronic renal failure patients, which cleans blood through an artificial kidney or dialyzer (Murdeshwar HN, et all 2021). Renal failure patients undergo the hemodialysis process 1-3 times a week and each time it takes 2-5 hours, this activity will continue throughout their lives (Ibrahim, M. B., Badawi, S. E. A., & Alameri, R. A. 2022).

One of the procedures in hemodialysis is the insertion of arteriovenous fistula cannulation access, where this process often causes pain and discomfort in patients who perform hemodialysis (Collister .D et all, 2019). In accordance with the reality that is often found in the field, as many as 80% of patients complain of pain, both mild pain to moderate pain. This is felt by patients during the insertion of arteriovenous fistula cannulation (O'Hare, A. M., Allon, M., & Kaufman, J.S., 2010). Pain is an unpleasant sensory and emotional experience that is usually caused by, or resembles that caused by, actual or potential tissue injury or damage. (Raja, S. N., Carr, D. B., Cohen, M, 2020). According to Alzaatreh MY, et all (2020) pain in arteriovenous fistula (AVF) cannulation is a fairly frequent problem in daily hemodialysis practice. Its prevalence varies from 12% to 80%, depending on the definition and pain assessment tools, and this affects the quality of life of hemodialysis patients.

One of the nursing interventions that can be done in pain management is complementary therapy, one of which is hypnotherapy (Bicego, A., Monseur, J., Collinet, A, 2021). Hypnotherapy is the application of hypnosis in curing psychological disorders and eliminating physical disorders, one of which is pain. The mechanism of action of hypnosis is based on the subconscious (Syaripudin, A. 2018). Research conducted by Arslan and Akca (2018), has shown that 75.7% of hemodialysis patients experience pain. Other studies support the idea that patients undergoing hemodialysis experience pain during AVF cannulation. Other researchers Da Silva et al1 (2016), conducted a study in Brazil with a sample of 70 people undergoing HD, with 30% of participants indicating pain as intense.

Complementary nursing is increasingly used by patients and is becoming more accepted in Europe. A study showed that 24.6% of people in Belgium used complementary care (e.g., acupuncture, homeopathy, hypnotherapy, massage therapy) during the 12 months prior to the study. Moreover, compared to other chronic conditions (e.g., depression, respiratory problems, diabetes) chronic pain conditions rely more on complementary treatments such as mind-body therapies (e.g., hypnosis) (Kemppainen LM, Kemppainen TT, Reippainen JA, et all, 2018). Nevertheless, although interest in complementary therapies has increased in the past two decades, evidence of their efficacy and effectiveness remains poorly studied. Moreover, comparative effectiveness research often focuses on the specific effects of complementary medicine through standardized and idealized situations that do not represent clinical practice (Fischer FH, Lewith G, Witt CM, et all, 2014). In addition, the increase in the aging population is also likely to increase the incidence of chronic pain. Therefore, the identification of effective treatments for pain management is important not only at the individual level but also at the societal level (Goldberg DS, McGee SJ, 2011).

METHODS

This research design uses quasi experimental with (one pre-post group design) or one group that gets hypnotherapy intervention treatment.

The sample in this study were 45 patients who performed hemodialysis with total sampling technique. In the study, the instrument used was the numerical Ranting Scale (NRS) pain scale. The data collection process was carried out when measuring the pain scale before and after being given hypnotherapy intervention. Data analysis was done univariate and bivariate using wilcoxon test.

RESULTS AND DISCUSSION

Table 1. Results of Pain Scale Level Before Hypnotherapy Intervention

Level of Pain	Frequency	Percentage (%)
Mild (1-3)	11	24,4
Moderate (4-6)	34	75,6
Severe (7-10)	0	0
Total	45	100

Based on table 1, it shows that the level of pain scale in patients before hypnotherapy intervention was obtained, namely 11 people (24.4%) at the level of mild pain scale, and 34 people (75.6%) at the level of pain scale in the moderate pain range when insertion of arteriovenous fistula cannulation access in hemodialysis.

Table 2. Results of Pain Scale Level After Hypnotherapy Intervention

Level of Pain	Frequency	Percentage (%)
Mild (1-3)	45	100
Moderate (4-6)	0	0
Severe (7-10)	0	0
Total	45	100

Based on table 2 shows that the level of pain scale in patients after hypnotherapy intervention for 45 respondents, the results show that all 45 respondents (100%) experienced a mild pain scale level response.

Table 3. Hypnotherapy Intervention on Pain Scale Level of Arteriovenous Fistula Cannulation Installation on Hemodialysis

Before Intervention	After Intervention			P Value
	Mild	Moderate	Severe	
Light	11	0	0	0,000
Currently	34	0	0	
Heavy	0	0	0	
Total	45	0	0	

Table 3 shows the Wilcoxon test with a p value of 0.000, which means that there is an effective effect of hypnotherapy intervention on the level of pain scale of arteriovenous fistula cannulation installation on hemodialysis, this states that Ha is accepted ($\alpha <$ 0.005).

The results of the study revealed that in this study it was found that the level of pain scale in patients before hypnotherapy intervention was obtained, namely 11 people (24.4%) at the level of mild pain scale, and 34 people (75.66%) at the level of pain scale in the moderate pain range when inserting arteriovenous fistula cannulation access in hemodialysis. This is consistent with the research conducted by Ibrahim, M.B, et all (2022), which showed that 38 HD patients (32.5%) experienced moderate pain during arteriovenous fistula cannulation. Meanwhile, 36 patients (30.8%) experienced mild pain. Only 32 patients (27.4%) reported severe pain during arteriovenous fistula

cannulation. According to the theory of Potter et all, 2017. That hypnosis is a natural and simple alternative therapy that quickly reduces pain in addition to the use of drugs, one of which is through during the cannulation of arteriovenous fistula in hemodialysis patients. According to Harwood L (2017), from the results of his research, arteriovenous fistula cannulation is an important skill for nurses caring for hemodialysis patients, and the development of AVF cannulation expertise among hemodialysis workers is very important. Missed cannulation increases the risk of complications (e.g., bruising, pain, anxiety, central venous catheter [CVC] insertion), so it is necessary to treat this by using hypnotherapy intervention so that patients who will perform arteriovenous fistula cannulation feel comfortable and feel less pain or illness.

In the results of the study after hypnotherapy intervention showed that the level of pain scale of 45 respondents, the results showed that all 45 respondents (100%) experienced a mild pain scale level response. In line with research conducted by David M.Wark (2020), it shows that almost 80% of patients who have been given hypnotherapy interventions can reduce anxiety, pain and provide a sense of comfort to patients who are hemodialyzed. In addition, this study is also consistent with Palsson, O et all (2019), which shows that 86% of patients who were given hypnotherapy were very comfortable, especially pain in terms of all medical procedures, one of which was the installation of the arteriovenous fistula cannula.

The results showed the Wilcoxon test with a p value of 0.000, which means that there is an effective effect of hypnotherapy intervention on the level of pain scale of arteriovenous fistula cannulation installation in hemodialysis, this means that Ha is accepted ($\alpha < 0.005$). A study by Akca et all (2018) showed that 75.7% of hemodialysis patients experience pain. Other studies support the idea that patients undergoing hemodialysis experience pain during arteriovenous fistula cannulation, so it is important to reduce pain during arteriovenous fistula cannulation by using hypnotherapy interventions to make patients feel comfortable and reduce pain. In line with the research conducted by Taylor, D. A., & Genkov, K. A. (2020) shows that hypnotherapy intervention is a feasible adjunctive therapy for pain management. This therapy has been shown to be a safe intervention for reducing pain in a variety of different pain conditions. The analysis of this individual study provides evidence to support further and stronger research in the use of hypnotherapy for pain management, such as arteriovenous fistula cannulation in patients undergoing hemodialysis (Treede, R.D., 2018). Similar to the findings of this study, an experimental study was conducted in Saudi Arabia with 62 patients who had an arteriovenous fistula (AVF) and were undergoing hemodialysis to evaluate the effectiveness of hypnotherapy in relieving pain due to AVF cannulation in this population. Cold compresses were applied to the arm contralateral to the fistulous limb ten minutes before and up to the time of cannulation by a nurse. A significant difference was found in pain levels before and after the intervention. Thus, the results showed hypnotherapy as an effective intervention to reduce pain during AVF puncture in hemodialysis patients (Al Amer HS et all, 2017).

CONCLUSION

Hemodialysis is a standard procedure for patients with chronic renal failure, which cleanses the blood through an artificial kidney or dialyzer. Patients with renal failure undergo hemodialysis 1-3 times a week and each time it takes 2-5 hours, this activity will continue throughout their lives. One of the procedures in hemodialysis is the insertion of arteriovenous fistula cannulation access, where this process often causes pain and discomfort in patients undergoing hemodialysis. One of the pain management approaches in arteriovenous fistula cannulation insertion is hypnotherapy intervention, which aims to reduce pain and make patients feel relaxed during arteriovenous fistula cannulation insertion.

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