

## THE INFLUENCE OF PSYCHOEDUCATION ON FLUID RESTRICTIONS AGAINST WEIGHT GAIN BETWEEN TWO HEMODIALYSIS OF PATIENTS WITH CHRONIC KIDNEY DISEASE

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### Abstract

Chronic kidney disease (CKD) is a pathological process with various of kidney itself and common symptoms beyond the kidney resulting in a progressive decline in kidney function that requires treatment on a regular basis. Hemodialysis is the most preferred way of CKD patients to survive. A problems during undergoing hemodialysis often experienced by patients including weight gain between the two hemodialysis (Interdialytic Weight Gain/IDWG). IDWG due to disobedience of patients including fluid restriction that required nursing interventions to change the behavior of the patient in order to comply with fluid restriction. Psychoeducation is an intervention that focus on how patients recognize and express their problems, subsequently share experiences among patients to look for solutions to solve common problems. This quasi experimental study aimed to determine the effect of phsycoeducation to fluid restriction IDWG of patients with Chronic kidney disease undergoing hemodialysis. Pre and post design without control was used in this study. 13 respondents were recruited by using purposive sampling taken from Arifin Achmad General Hospital Pekanbaru, Riau. Data were collected by measuring IDWG before and after psychoeducation by using weight scales. Wilcoxon test were used to analyse the data. Result of this study showed there were differences IDWG before and after psychoeducation proven by the value  $p = 0.001$  and an average decrease of 1,000. In conclusion there is a positive influence of the IDWG psychoeducation in CKD patients undergoing hemodialysis. The study recommends health care workers to implement psychoeducation in the hemodialysis unit.

**Keywords:** CKD, Haemodialysis, psychoeducation, fluid restriction, IDWG

### BACKGROUND

Renal failure is the inability of the kidneys to function properly, as a result of three common causes that can be classified as: pre-renal, renal, and Postrenal (Guyton & Hall, 2007). Onset of renal failure can be acute and chronic. Said to be acute if the disease progresses very rapidly, occurring within a few hours or a few days. While chronic, occur and develop slowly, until a few years (Baradero, Dayrit, & Siswadi, 2009).

Patients are said to be suffer from chronic renal failure if they are having

decrease in *Glomerular Filtration Rate* (GFR)  $<60 \text{ ml / min / } 1.73 \text{ m}^2$  for more than 3 months (Black & Hawks, 2009). This disease is also a complication of some kind of kidney disease itself and the outside common kidney disease (Muttaqin & Sari, 2011).

The prevalence of Chronic Renal Failure (CRF) patients in the United States by the end of 2002, approximately 345,000 people. In 2007 increase to 80,000 people (increase 23%) and to be expected in 2010 will be increase to 660,000 people (increase 91.3%) (Lewis *et al*, 2004). Indonesia is also includes by the countries with levels of patients with quite



high chronic renal failure. In 2007 the number of CRF patients reached 2,148 people, then in 2008 increased by 5.2% become 2,260 people (Natural & Hadibroto, 2008). Based on medical record data from Arifin Acmad Pekanbaru in Riau Province in 2014, they found the number of patients with CRF in 2010 about 150 people, in 2011 as about 289 people (increase 92.6%), in 2012 approximately 222 people (decrease 23%) and in 2013 increased by 57.6% to 350 people.

There are three options to address the problems that exist for patient with CRF, which are; Untreated, chronic dialysis (*peritoneal dialysis* / hemodialysis), and transplantation. Untreated option certainly considered but rarely chosen, most people choose to obtain treatment with hemodialysis or transplantation with the hope to sustain life (Hudak *et al* 2006).

Dialysis is an actions therapy to replace the renal that have been damaged (Cahyaningsih, 2008). These actions can help or take over the normal function of the kidneys. Replacement therapy that often done are hemodialysis and *peritoneal dialysis* (Risicmilller & Cree, 2006). In between this two types, which became the primary choice and became common treatment method for patients with kidney failure is hemodialysis (Kartono, Darmarini & Roza, 1992 in Lopez, 2006).

According to PERNEFRI data, an estimated 70 thousand people with CRF undergoing hemodialysis 5.7% to 7.1% which is about 4-5 thousand people (Natural & Hadibroto, 2008). Patient with CRF in Riau especially at Arifin Achmad Pekanbaru, found that the hemodialysis patients who visit each year for service has increased. There are 8,124 visits in 2012 and 8588 visits in 2013 (increase 5.7%) (Arifin Achmad Hospital Medical Record, 2014).

Hemodialysis therapy should be run regularly in order to maintain a stable renal function so the CRF patient did not experience worsen conditions. In addition, fluid regulation, medications, physical activity and lifestyle changes such as diet is to be followed and maintain by the patients with CRF (Hudak and Gallo, 2006).

CRF patients must have knowledge about the management of diet and fluid intake in consumption. If they do not have enough knowledge about the management of diet and the consumption of the liquid, that will lead to quick weight gain exceed 5% edema, ronkhi wet lungs, eyelid swelling and shortness of breath (Brunner & Suddarth, 2013). CRF patients on hemodialysis already being given health education on nutrition and fluid restriction, but at the next hemodialysis therapy, there are still patients coming with shortness of breath due to excess body fluid volume (Sapri, 2008).

Nurses as health workers that closer to the patient, having role as a providers of nursing care as well as an educator is responsible for promoting knowledge, they are given awareness of patients and families about the importance of limiting consumption of fluids and food for patients with CRF.

Psychoeducation (PE) is a *treatment* that is given in a professional manner which integrates psychotherapeutic intervention and education. PE can be applied not only to individuals but also can be applied to families and groups. PE can be used as part of the *treatment* process and as part of rehabilitation for patients with a particular disease or disorder. PE is given to patients with psychiatric disorders including family members and other interested persons to care for these patients (Lukens & McFarlane, 2004).

Complications that are common in hemodialysis patients is weight gain between the two time hemodialysis (*Interdialytic Weight Gain* / IDWG) caused by the inability of renal excretory function, so regardless of the amount of fluid that patients intake weight gain will always be there. The addition of high-value IDWG which always be a negative effect on the patient's condition, including hypotension, shortness of breath, nausea and vomiting, muscle cramps and other (Pace, 2007). In addition patients with hemodialysis who did not comply with the restrictions on liquids, can causing excess risk of premature death (suggestion *et al*, 2003 in Suryarinilsih, 2012).



Based on data from the medical record room hemodialysis Arifin Achmad Pekanbaru obtained by researcher on Saturday 13th and December 20th 2014 there are 94% who are overweight, and only 6% were not overweight passed by IDWG ideal. IDWG that can be tolerated by the body is not more than 1-1.5 kg (Lewis, Stalber & Welch, 2006).

The purpose of this study to determine the effect of physicoeducation to fluid restriction IDWG of patients with Chronic kidney disease undergoing hemodialysis

No.	Weight Between Two Time Hemodialysis	Pre Intervention		Post Intervention	
		f	(%)	f	(%)
1	1-1.5 kg	0	0%	5	38.5
2	1,6- 2 kg	1	7.7%	4	%
3	> 2 kg	12	92.3%	4	30.8
					%
					30.8
					%
	amount	13	100%	13	100%

Table 1: Weight Difference Between Two Time Pre and Post intervention

Increase in Weight	N	Mean	Standar Deviasi (SD)	Standar Error (SE)	Selisih Rerata Nilai	t-hitung	(value)
Pre	13	2,92	0,277	0,077			
Post	13	1,92	0,862	0,239	1,000	4,416	0,001

Table 2: Distribution Average Increase in Weight Between Two Time Respondents Before and After Therapy psychoeducation

From Table 1 it can be seen that the majority of the weight between the two time *pretest* respondents were > 2 kg by 12 respondents (92.3%), and *posttest* respondent is 0-2 kg by 5 respondents (38.5%). From Table 2 it can be seen that the weight gain between two times hemodialysis with average *pretest* was 2.92 with a standard deviation of 0.277, while the weight gain between two average hemodialysis time *posttest* was 1.92 with a standard deviation of 0,862. This is showing that there is a decrease in the value of

## METHODS

This research is a quantitative research, *quasi experiment* research design and *one group pretest posttest design*.

This research was conducted at Arifin Achmad Pekanbaru 2015, the samples used were 13 people. The variables measured in this study IDWG before and after psychoeducation using weight scales.

## RESULTS

weight between the two time hemodialysis in *pretest* and *posttest*. The test results from *paired-samples T test* showed *value* is 0.001, which means <0.05, then the alternative hypothesis ( $H_a$ ) rejected. That there is effect of psychoeducation therapy against weight loss between two time hemodialysis patients with chronic renal failure that undergoing hemodialysis in Hemodialsisa Arifin Achmad's Room Pekanbaru.



## DISCUSSION

Based on *Dependent T* test the average value of weight gain between the two time hemodialysis before psychoeducation is 2.92 and the average value of weight gain between the two time hemodialysis after psychoeducation is 1.92. There is a significant difference from the value of the average weight gain before and after psychoeducation that can be seen from *the mean* value = 1,000. Result from *Dependent T* test obtained *value* 0,001 which means  $<0.05$ . Based on test there is statistically difference in value between the average value of weight gain after psychoeducation. The test results practically very meaningful and can be used in providing nursing care to take care of limit fluid intake in CRF patients who is having hemodialysis at Arifin Achmad Pekanbaru Hospital.

It can be concluded that psychoeducation may help to control fluid intake and giving positive influence on body weight in patients with CRF who is undergoing hemodialysis. This is happen because psychoeducation helps patients to recognize the problem that happened to him, providing education about the therapy, motivate patients and increase patient acceptance of the conditions or management and are taught how to overcome the problems encountered.

## CONCLUSION

The majority of weight loss by respondent between two time hemodialysis at the time before psychoeducation is  $> 2$  kg with 12 people (92.3%). While the weight of respondents by the two hemodialysis time after doing psychoeducation is  $< 2$  kg with five people (38.5%).

From the statistical test for psychoeducation on body weight between the two time hemodialysis in patients with renal failure who undergoing hemodialysis ktonik obtained *value* = 0.001 less than the *Alpha* ( $<0.05$ ), which means  $H_a$  accepted, with significant differences in the average weight after the two-time hemodialysis and doing psychoeducation.

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