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ORIGINAL RESEARCH

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HYPNODIALYSIS FOR ANXIETY RELIEF AND ADHERENCE TO MEDICATION, KIDNEY DIET AND FLUID INTAKE IN PATIENTS WITH CHRONIC KIDNEY DISEASE

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Abstract

Objective: To examine the effectiveness of hypnodialysis on anxiety levels and adherence to medication, kidney diet and fluid intake in patients with chronic kidney disease.

Methods: This was a randomized controlled trial study conducted from November to December 2016. Thirty respondents recruited using simple random sampling, which 17 respondents assigned randomly in the experiment and control group. The Hamilton Anxiety Rating Scale (HARS), Morisky scale, adherence to kidney diet questionnaire, adherence to fluid intake questionnaire were used as instruments for this study. Paired t-test and repeated ANOVA were used for data analysis.

Results: Findings showed that there was a statistically significant effect of hypnodialysis in reducing anxiety levels and improving adherence to medication, kidney diet, and fluid intake in patients with chronic kidney disease with p-value 0.000 (<0.05), which its effect started from day 7 (posttest 1).

Conclusion: Hypnodialysis may decrease anxiety levels and improve medication adherence, kidney diet and fluid intake. Therefore, hypnodialysis can be alternative treatment for patients with chronic kidney disease.

Keywords: anxiety; medication adherence; kidney diet; fluid intake; chronic kidney disease

INTRODUCTION

Chronic kidney disease (CKD) is progressive, irreversible deterioration in renal function in which the body's ability to maintain metabolism and fluid and electrolyte balance fails, resulting in uremia and azotemia ([Smeltzer et al., 2008](#)). CKD occurs because of the number of nephrons are damaged and stop working. For a while, healthy nephrons can take on the extra work. But if the damage continues, more and more nephrons shutdown. Damage from the nephron may cause a decrease in the Glomerular Filtration Rate (GFR), which the kidneys are incapable of filtering blood as renal function decreased, so that the rest of the protein metabolism that should be excreted into the urine accumulates

into the urine and affects the workings of each system of the body ([Smeltzer et al., 2008](#)).

Decrease in kidney function or Glomerular Filtration Rate (GFR) less than 15 mL/minute/1.73 m is called as Chronic kidney disease (CKD) stage V. Effect of decreased renal function in excreting the final product of metabolism, acidic substance, will accumulate in serum patients and work as toxins ([Elizabeth, 2009](#)). Patients with chronic kidney disease often develop sudden changes such as severe acidosis, hyperkalemia, sepsis, pulmonary edema or other severe infections that can cause death, therefore rapid treatment is needed. Chronic kidney disease is currently the most important health problem, which is

not only related to the prevalence and the increase of incidence rate, but also the high cost of replacement treatment of renal function ([Harrison, Wilson, & Kasper, 2005](#)).

The number of patients with kidney disorders in developed countries is quite high. In the United States, the incidence of chronic kidney was sharply increased, in 2000 there were 372,000 cases, by 2010 the number was estimated to be more than 650,000 cases, and about 6 million to 20 million Americans were estimated to have early chronic kidney disease. The similar thing also happened in Singapore, which there was 2,497 cases in 2012, and increased to 2,518 cases in 2013. In Malaysia, with a population of 18 million, it is estimated that there are 1,800 new cases of chronic kidney disease per year ([Nicolas, 2013](#)).

Treatment of chronic kidney disease consists of 3 stages, namely conservative treatment, symptomatic and replacement therapy of kidney function. While handling of chronic kidney disease conservatively consists of the role of kidney diet, which regulates calorie needs, fluid fulfillment, electrolyte and mineral. Symptomatic therapy aims to prevent or reduce kidney damage by administration of drugs such as antihypertensive and anemia drugs, while replacement therapy for kidney function is by hemodialysis or directly by performing a kidney transplant ([Price & Wilson, 2005](#)).

Hemodialysis is a kidney replacement therapy often performed in Indonesia. Hemodialysis is a treatment that aims to replace kidney function by using machinery to remove the remnants of metabolic products and reduce disruption of fluid and electrolyte balance when the kidneys are no longer able to carry out the process with diffusion, osmosis and ultrafiltration principles. General indications of hemodialysis in chronic kidney disease is when GFR is less than 15 mL/min. Hemodialysis is not a therapy that can cure the disease permanently, but hemodialysis helps the patient's survival before transplanting the kidneys. Although hemodialysis is safe and beneficial to patients, it does not mean hemodialysis without side effects ([Sukandar, 2006](#)).

When patients start hemodialysis, then they must change all aspects of their life at that moment. Patients should do hemodialysis routinely for 2-3 times a week, dealing with repeated punctures, medication adherence, low-protein and salt diet, and limited fluid intake. In addition, hemodialysis also impacts on psychology of patients, such as anxiety. Anxiety is an emotion characterized by an unpleasant state or reaction to situations perceived as stressful or dangerous ([Syamsiah, 2011](#)).

Based on preliminary study with five patients with CKD, it was identified that 2 patients experienced mild anxiety and 3 patients experienced moderate anxiety; of those five patients, four of them did not follow the diet and fluid intake. It is however supported by previous study revealed that from 68 patients, more than a half of them experienced anxiety, which was influenced by several factors, such side effects during hemodialysis, including muscle cramps, nausea, vomiting, and hypotension, as well as the fear of death, economic change, changes in family function and lifestyle changes ([Lailatushifah, 2012](#)). In addition, Kartika Sari explained that the non-adherence of patients in kidney diet and fluid intake is caused that the patients think they are free to consume any food and drink just before hemodialysis because the waste of metabolism in the body will be expelled during hemodialysis therapy, in fact, body weight is gained than recommended ([Sari, 2009](#)). Followed by Desak Putu Kurniawati said that 50% -66.7% of patients undergoing hemodialysis with non-adherence to fluid intake restriction were characterized by complaints of shortness of breath caused by increased body fluid volume during visit. These indicate that adherence to medication, kidney diet, and fluid intake is still quite difficult to apply by patients with CKD undergoing hemodialysis. Thus, an effort to deal with patient's adherence is needed ([kurniawati, 2014](#)).

Health education, family support, and hypnotherapy are often used as efforts to overcome with patient's adherence. However, this study only focused on hypnotherapy as an intervention to increase patient's adherence. Previous study stated that there was an effect

of hypnotherapy on anxiety and adherence to medication, kidney diet, and fluid intake (Ds, [Kristiyawati, & Supriyadi, 2014](#); [Lailatushifah, 2012](#); [Sari, 2009](#)). Therefore, given the phenomena and the effect of hypnotherapy in previous study, this study aimed to prove the effectiveness of hypnotherapy (called hypnodialysis) on anxiety and adherence to medication, kidney diet and fluid intake in patients with chronic kidney disease.

METHODS

Study Design

This was a randomized controlled trial study conducted from November to December 2016 in the General Hospital of Ungaran and Ambarawa, Indonesia.

Sample

The target population in this study were all patients with chronic kidney disease who undergone hemodialysis at Ungaran Hospital and Ambarawa hospital. In the Ungaran hospital, there were 39 patients regularly performed hemodialysis, while in Ambarawa hospital, 40 patients routinely performed hemodialysis. The number of samples in this study was 34 respondents recruited based on the number of samples in previous study using RCT design. The number of samples in each group was 17 respondents assigned randomly in the experiment and control group. Simple random sampling was performed by randomization of patients' name lists, which even number was included in the experiment group and odd number included in the control group. The inclusion criteria of the sample were patients undergoing hemodialysis with full consciousness, while the exclusion criteria were patients with interdialytic condition (hypotension, hypoglycemia, and shortness of breath).

Intervention

Hypnodialysis is a holistic therapy by giving a hypnosis to patients undergoing hemodialysis which aims to address the problems of both anxiety, medication adherence, adherence to kidney diet and fluid intake through deep suggestion to the patient by taking a deep breath and exhaling by mouth slowly and repeatedly over and over until patient is

hypnotized, which is characterized by relaxed condition and can be encouraged to follow the therapist's instructions appropriately without seeing the therapist. Hypnodialysis performed by certified therapist for 8 times intervention, with 4 times a week performed at each patient's home in duration of 45 minutes per session. For the control group, health education about chronic kidney disease and kidney diet and fluid intake was given for 8 times intervention, with 4 times a week performed at each patient's home in duration of 45 minutes per session.

Instruments

There were four instruments used in this study, which consisted of:

- (i) The Hamilton Anxiety Rating Scale (HARS) was used to measure anxiety adopted from previous instrument in Indonesian version ([Hargyowati, 2016](#)) in Indonesian version. This scale consisted of 14 items of questions. Cronbach's alpha was 0.756.
- (ii) Morisky scale was used to measure medical adherence adopted from previous instrument in Indonesian version ([Puspitasari, 2012](#)). This scale consisted of 8 items of questions. Cronbach's alpha was 0.802.
- (iii) Adherence to kidney diet questionnaire, adopted from previous instrument in Indonesian version ([Relawati, Kurniawan, Fauzi, & Hadi, 2016](#)). The questionnaire consisted of 26 items of dichotomous questions. KR-20 obtained a reliable value of 1.17, and coefficient correlation in all items was >0.6 .
- (iv) Adherence to fluid intake questionnaire, adopted from previous instrument in Indonesian version ([Aminoto & Asti, 2012](#)). It consisted of 20 items of questions with dichotomous options. KR-20 value was 0.645, and coefficient correlation in all items was >0.6 .

Ethical consideration

Ethical clearance was obtained from Health Research Ethics Committee of POLTEKKES Semarang with No. 174/KEPK/Poltekkes-Smg/EC/2016. The researchers have confirmed that all respondents have signed a written informed consent prior to data collection.

Data Analysis

Paired t-test and repeated ANOVA were used for data analysis.

RESULTS

Table 1 shows that in the control group in day 1 (pretest 1) in the first week found that 10 respondents (58.8%) had severe anxiety and 7 respondents (41.2%) had moderate anxiety, while in the day 7 (posttest 1) the level of anxiety showed 9 respondents (52.9%) had moderate anxiety and 6 people (47.1%) with mild anxiety. In day 8 (pretest 2) in the second week found 13 respondents (76.4%) had moderate anxiety and 4 respondents (23.6%) had mild anxiety, while in the day 12 (posttest 2) the anxiety level showed 13

respondents (76.4%) had mild anxiety and 3 respondents (17.6%) with no anxiety.

For the experiment group, in day 1 (pretest 1) in the first week found 12 respondents (70.5%) had moderate anxiety and 5 respondents (29.4%) had severe anxiety, while in the day 7 (posttest 1) the level of anxiety showed 15 respondents (88.3%) had mild anxiety and 2 respondents (11.8%) with no anxiety. In day 8 (pretest 2) in the second week found 16 respondents (94.6%) had mild anxiety and 1 respondent (5.9%) had no anxiety, while in the day 12 (posttest 2) the anxiety level showed 1 respondent (5.9%) had mild anxiety and 16 respondents (17.6%) with no anxiety.

Table 1 Frequency distribution of anxiety levels in the control and experiment group (n=34)

Variable	Control group								Intervention group							
	Day 1		Day 7		Day 8		Day 12		Day 1		Day 7		Day 8		Day 12	
Anxiety level	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Mean ± SD	(29.53± 4.611)		(22.82± 3.414)		(23.82± 3.245)		(16.88± 4.285)		(26.71± 3.917)		(16.06± 3.288)		(16.82± 2.765)		(7.76± 3.192)	
<14 : No anxiety	0	0	0	0	0	0	3	17.6	0	0	2	11.8	1	5.9	16	94.1
14-20 : Mild	0	0	6	47.1	4	23.6	13	76.4	0	0	15	88.3	16	94.1	1	5.9
21-27 : Moderate	7	41.2	9	52.9	13	76.4	1	5.9	12	70.5	0	0	0	0	0	0
28-41 : Severe	10	58.8	0	0	0	0	0	0	5	29.4	0	0	0	0	0	0
43-56 : More severe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2 Frequency distribution of medication adherence in the control and experiment group (n=34)

Variable	Control group								Intervention group							
	Day 1		Day 7		Hari 8		Day 12		Day 1		Hari 7		Day 8		Day 12	
Medication adherence	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Mean±SD	(6.53± 0.874)		(5.47± 0.624)		(6.29± 0.588)		(5.00± 0.791)		(6.35± 0.786)		(3.35± 0.931)		(4.18± 0.951)		(2.06± 0.899)	
1-5 : High	3	17.6	10	58.8	1	5.9	12	70.6	3	17.6	17	100	15	88.2	17	100
6-7 : Moderate	13	76.4	7	41.2	16	94.1	5	29.4	14	82.3	0	0	2	11.8	0	0
8 : Low	3	17.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2 shows that in the control group in day 1 (pretest 1) in the first week found that 3 respondents (17.6%) had low medication adherence, 3 respondents (76.4%) had high

medication adherence and 13 respondents (76.4%) had moderate medication adherence, while in the day 7 (posttest 1) there was no respondents had low medication adherence, 9

respondents (41.2%) had moderate medication adherence, and 10 respondents (58.8%) with high adherence. In day 8 (pretest 2) in the second week found that 16 respondents (94.1%) had moderate adherence and 1 respondent (5.9%) had high adherence, while in the day 12 (posttest 2) there were 5 respondents (29.4%) had moderate adherence and 12 respondents (70.6%) with high medication adherence.

For the experiment group, in day 1 (pretest 1) in the first week found that 14 respondents

(82.3%) had moderate medication adherence and 3 respondents (17.6%) had high adherence, while in the day 7 (posttest 1) there was no respondent with low and moderate medication adherence, all of them (100%) had high medication adherence. In day 8 (pretest 2) in the second week found that 2 respondents (11.8%) had moderate medication adherence and 15 respondents (88.2%) with high adherence, and in the day 12 (posttest 2) all respondents (100%) had high medication adherence.

Table 3 Frequency distribution of adherence to kidney diet in the control and experiment group (n=34)

Variable	Control group								Intervention group							
	Day 1		Day 7		Hari 8		Day 12		Day 1		Day 7		Hari 8		Day 12	
Adherence to kidney diet	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Mean±SD	(15.59±1.372)		(13.18±1.976)		(14.06±2.512)		(9.06±13.579)		(15.53±1.908)		(8.41±3.020)		(10.94±2.861)		(3.82±0.728)	
1-13 : Obey	0	0	7	41.2	3	17.7	13	76.5	1	5.9	16	94.1	11	64.7	17	100
14-26: Disobey	17	100	10	58.7	14	82.3	4	23.5	16	94.2	1	5.9	6	47.1	0	0

Adherence to kidney diet as shown in the Table 3 shows that in the control group in day 1 (pretest 1) in the first week found that all respondents (100%) disobeyed, while in day 7 (posttest 1) found that 10 respondents (58.7%) disobeyed and 7 respondents (41.2%) obeyed. In day 8 (pretest 2) in the second week found that 14 respondents (82.3%) disobeyed and 3 respondents (17.7%) obeyed, in the day 12 (posttest 2) there were 4 respondents (23.5%) disobeyed and 13 respondents (76.5%) obeyed.

For the experiment group, in day 1 (pretest 1) in the first week found that 16 respondents (94.2%) disobeyed and 1 respondent (5.9%) obeyed, while in the day 7 (posttest 1) there was 1 respondent disobeyed and 16 respondents (94.1%) obeyed. In day 8 (pretest 2) in the second week found that 11 respondents (64.7%) obeyed and 6 respondents (47.1%) disobeyed, and in the day 12 (posttest 2) all respondents (100%) obeyed kidney diet.

Table 4 Frequency distribution of adherence to fluid intake in the control and experiment group (n=34)

Variable	Control group								Intervention group							
	Day 1		Day 7		Hari 8		Day 12		Day 1		Hari 7		Day 8		Day 12	
Adherence to fluid intake	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Mean±SD	(14.53±1.375)		(9.94±1.919)		(10.53±1.586)		(7.59±1.543)		(13.82±1.185)		(5.47±1.281)		(7.76±1.855)		(3.12±1.11)	
1-10 : Obey	0	0	11	64.7	8	47.1	16	94.1	0	0	17	100	15	88.2	17	100
11-20: Disobey	17	100	6	35.3	9	52.9	1	5.9	17	100	0	0	2	11.8	0	0

Adherence to fluid intake as shown in the Table 4 shows that in the control group in day 1 (pretest 1) in the first week found that all

respondents (100%) disobeyed, while in day 7 (posttest 1) found that 11 respondents (64.7%) obeyed and 6 respondents disobeyed. In day 8

(pretest 2) in the second week found that 8 respondents (47.1%) obeyed and 9 respondents (52.9%) disobeyed, in the day 12 (posttest 2) there were 16 respondents (94.1%) obeyed and 1 respondent (5.9%) disobeyed. For the experiment group, in day 1 (pretest 1) in the first week found that all

respondents (100%) disobeyed, while in the day 7 (posttest 1) all respondents (100%) obeyed. In day 8 (pretest 2) in the second week found that 15 respondents (88.2%) obeyed and 2 respondents (11.8%) disobeyed, and in the day 12 (posttest 2) all respondents (100%) obeyed fluid intake.

Table 5 Mean difference of anxiety level, medication adherence, adherence to kidney diet and fluid intake in the control and experiment group using Paired t-test (n=34)

Group	N	Mean	SD	P-value
Anxiety level				
Experiment group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	18.941	5.942	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	10.647	6.154	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	10.176	5.028	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	8.765	3.345	0.000
Control group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	12.647	6.254	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	6.706	4.012	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	5.706	3.885	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	6.941	3.631	0.000
Medication adherence				
Experiment group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	4.294	1.490	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	3.000	1.458	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	2.176	1.551	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	2.118	0.332	0.000
Control group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	1.529	0.800	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	1.059	1.088	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	0.235	0.970	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	1.294	0.686	0.000
Adherence to Kidney diet				
Experiment group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	11.706	2.085	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	7.188	1.616	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	4.588	2.717	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	7.118	2.595	0.000
Control group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	6.529	2.363	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	2.412	1.839	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	1.529	2.322	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	5.000	3.240	0.000
Adherence to Fluid intake				
Experiment group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	10.706	1.160	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	8.353	0.931	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	6.059	1.476	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	4.647	1.169	0.000
Control group				
Day 1 (pretest 1) - Day 12 (posttest 2)	17	6.941	2.436	0.000
Day 1 (pretest 1) - Day 7 (posttest 1)	17	4.588	2.740	0.000
Day 1 (pretest 1) - Day 8 (pretest 2)	17	4.000	2.398	0.000
Day 8 (pretest 2) - Day 12 (posttest 2)	17	2.941	1.249	0.000

Table 5 shows that the anxiety level after given hypnodialysis 8 times for 2 weeks in the experiment group decreased by about 33.83% while health education in the control group

could decrease anxiety level as much as 22.59%. Paired t-test obtained p-value 0.000 (<0.05), which indicated there was a

significant difference in anxiety levels between experiment and control group.

For medication adherence, there was an improvement of medication adherence in the experiment group after given intervention by about 53.68%, and also an increase of medication adherence in the control group as much as 19.12%. Paired t-test obtained p-value 0.000 (<0.05), which indicated that there was a significant difference in medication adherence between experiment and control group.

Similar with adherence to kidney diet, there was an improvement of adherence after given

intervention in the experiment group for about 45.03% and the control group was 25.12%; while adherence to fluid intake increased to 53.53% in the experiment group and 34.71% in the control group. Paired t-test obtained p-value 0.000 (<0.05), which indicated that there was a significant difference in adherence to kidney diet and fluid intake between experiment and control group. Of all those variables, the mean of anxiety levels, medication adherence and adherence to kidney diet and fluid intake in the experiment group was higher than the mean in the control group

Table 6 Effect of hypnodialysis on anxiety levels in the control and experiment group using repeated ANOVA and post hoc test (n=34)

Repeated ANOVA	Df	Mean	F	P-value
Anxiety levels	3	108.131	6.529	0.000
Residue	1			
Post hoc test				
Mean of anxiety levels				
Day 1 (Pretest 1): experiment – control group				0.063
Day 7 (Posttest 1): experiment – control group				0.000
Day 8 (Pretest 2): experiment – control group				0.000
Day 12 (posttest 2): experiment – control group				0.000

Table 6 shows that the result of repeated ANOVA obtained p-value 0.00 (<0.05), which indicated that there was a significant effect of hypnodialysis on anxiety levels with F-value= 6.529. Post hoc test showed the effect of hypnodialysis started from day 7 (Posttest 1).

Table 7 shows that the result of repeated ANOVA obtained p-value 0.00 (<0.05), which indicated that there was a significant effect of hypnodialysis in increasing medication adherence with F-value= 24.956. Post hoc test showed the effect of hypnodialysis started from day 7 (Posttest 1).

Table 7 Effect of hypnodialysis on medication adherence in the control and experiment group using repeated ANOVA and post hoc test (n=34)

Repeated ANOVA	Df	Mean	F	P-value
Medication adherence	3	23.487	24.956	0.000
Residue	1			
Post hoc test				
Mean of medication adherence				
Day 1 (Pretest 1): experiment – control group				0.540
Day 7 (Posttest 1): experiment – control group				0.000
Day 8 (Pretest 2): experiment – control group				0.000
Day 12 (posttest 2): experiment – control group				0.000

Table 8 shows that the result of repeated ANOVA obtained p-value 0.00 (<0.05), which indicated that there was a significant effect of hypnodialysis in increasing adherence to kidney diet with F-value=

13.649. Post hoc test showed the effect of hypnodialysis started from day 7 (Posttest 1).

Table 9 shows that the result of repeated ANOVA obtained p-value 0.00 (<0.05), which indicated that there was a significant

effect of hypnodialysis in increasing adherence to fluid intake with F-value=

13.649. Post hoc test showed the effect of hypnodialysis started from day 7 (Posttest 1).

Table 8 Effect of hypnodialysis on adherence to kidney diet in the control and experiment group using repeated ANOVA and post hoc test (n=34)

Repeated ANOVA	Df	Mean	F	P-value
Adherence to kidney diet	3	46.594	13.649	0.000
Residue	1			
Post hoc test				
Mean of adherence to kidney diet				
Day 1 (Pretest 1): experiment – control group				0.798
Day 7 (Posttest 1): experiment – control group				0.000
Day 8 (Pretest 2): experiment – control group				0.000
Day 12 (posttest 2): experiment – control group				0.000

Table 9 Effect of hypnodialysis on adherence to fluid intake in the control and experiment group using repeated ANOVA and post hoc test (n=34)

Repeated ANOVA	Df	Mean	F	P-value
Adherence to fluid intake	3	35.723	19.005	0.000
Residue	1			
Post hoc test				
Mean of adherence to fluid intake				
Day 1 (Pretest 1): experiment – control group				0.119
Day 7 (Posttest 1): experiment – control group				0.000
Day 8 (Pretest 2): experiment – control group				0.000
Day 12 (posttest 2): experiment – control group				0.000

DISCUSSION

Effectiveness of hypnodialysis on anxiety levels

Findings of this study revealed that there was a significant effect of hypnodialysis in reducing anxiety levels in patients with chronic kidney disease with p-value 0.000, starting from day 7 (posttest 1). It could be said that hypnodialysis is very beneficial for patients with chronic kidney disease who undergo hemodialysis with positive suggestions. This is in line with previous studies stated that hypnotherapy is proven to deal with a variety of psychological and psychological disorders, such as anxiety, stress, phobia, sleep disturbances, mind-set disorders, etc. ([Golden, 2012](#)).

Physiologically, hypnotherapy works through brainwashing systems, as La Kahija says that on hypnotherapy sessions such as induction and deepening, patient will be guided by the therapist from the conscious mind to the subconscious mind. In this condition, patient will enter a deeper hypnotic pattern, so that the original brain waves in the beta wave will change slowly toward the alpha wave. Under alpha conditions, the brain will produce serotonin and endorphin hormones that cause the person to feel comfortable, calm and

happy. This hormone increases body immune system, dilate blood vessels, and the heartbeat becomes stable and the sensory capacity rises. At the time an individual in hypnotherapy, there is a stimulation of the activation system of the reticularis in the brain, causing an autonomic nerve response, i.e. pulse, breath frequency, blood pressure and controlled feelings, emotion and anxiety ([La Kahija, 2007](#)).

Relaxation will inhibit the sympathetic hormone, so the number of hormones that causes body dysregulation can be reduced. The parasympathetic nervous system, which has the opposite work function of the sympathetic nerves, will slow or weaken the workings of the body's internal devices. As a result, there is a decrease in heart rate, breathing rhythm, muscle tension, blood pressure, and the production of stress-causing hormones ([La Kahija, 2007](#)). The relaxation conditions that result from the treatment of hypnosis can trigger changes in brain waves where in hypnotic state the brain will enter the alpha wave to theta. The frequency of the wave becomes more rhythmic and regular so that the effects that arise on the brain is the production of neurotransmitters such as endorphins, GABA, enkephalin and several

other neurotransmitters that serve to reduce the condition of anxiety as well as cause a relaxing effect. ([Potter & Perry, 2005](#))

Hypnodialysis is one part of therapy to overcome anxiety by distraction therapy. Distraction is a method to relieve anxiety by turning attention to other things so that the patient will forget the anxiety experienced. A pleasant sensory stimulus causes the release of endorphins that can inhibit anxious stimuli resulting in less anxious stimuli being transmitted to the brain ([Potter & Perry, 2005](#)). Findings of this study were consistent with previous studies revealed that hypnodialysis was effective in decreasing emotional and anxiety levels. Differences in hypnodialysis methods in this study and previous study were the hemodialysis was given for 4 times while in this study was given for 8 times in 2 weeks.

Effectiveness of hypnodialysis on adherence to medication, kidney diet and fluid intake

Findings of this study also revealed that there was a significant effect of hypnodialysis in improving medication adherence and adherence to kidney diet and fluid intake in patients with chronic kidney disease with p-value 0.000, starting from day 7 (posttest 1). Hypnodialysis is a therapy used in the form of suggestions through the art of distinctive communication, and shown to the subconscious mind with the aim to change thoughts, feelings, and behavior for the better. This is in accordance with the theory stating that hypnotherapy is a persuasive communication art that aims to open a person's unconscious gate so that suggestions can be given ([Hakim, 2010b](#)).

Humans have two types of thoughts that are one unity, between the subconscious mind. The role and influence of the conscious mind to ourselves as much as 12% while the subconscious mind reaches 88%. The unconscious and the subconscious mind actually affect each other and work at a very high speed ([Batbual, 2010](#)). During the process of hypnosis, the body of a person will be relaxed, while his/her mind is very focused and attentive. Like other relaxation techniques, when the critical factor (CF) or

reticular activating system (RAS) is open and unwittingly all information enters the unconscious mind without filtering and becoming program of life. Conducting a self-program is to by-pass the critical factor or penetrate the critical filter and directly communicate with the subconscious mind. By penetrating this critical filter, the conscious mind is deactivated so that suggestions are nine times effective ([Hakim, 2010a](#)).

Hypnotherapy can help the patient find "you own way" or "your own way" to motivate yourself to immediately start an activity such as sport, quit smoking, regulate diet and improve healthy behavior. This study is in line with the previous study revealed that there was an increase in medication adherence after given motivational interviewing and counseling ([Rubak, 2005](#)). In addition, theory states that hypnotherapy is a healing concept that balances the system of harmonizing the body by reorganizing the habits and behavior, both consciously and unconsciously ([Hakim, 2010a](#)). Thus, there was a change of habit and behavior from low adherence to high adherence in this study.

CONCLUSION

It can be concluded that there was a significant effect of hypnodialysis in reducing anxiety levels and improving medication adherence and adherence to kidney diet and fluid intake in patients with chronic kidney disease with p-value 0.000 (<0.05). Thus, hypnodialysis can be an alternative treatment for patients with chronic kidney disease.

Declaration of Conflicting Interest

None declared. All authors contributed equally in this study.

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