

Effects of *latihan pasrah diri* in quality of life in chronic kidney disease-dialysis patients with depression symptoms

Widyaningrum¹, Agus Siswanto², Bambang Djarwoto²

ABSTRACT

Background: Patients with chronic kidney disease (CKD) suffering from various physical and emotional symptoms show depression and disturbance in quality of life. Patients with chronic kidney disease have a decreased quality of life, and mortality rate about 22% in every year. Depression in patients with CKD must be managed properly because a large effect on HRQOL (Health Related Quality of Life) and the potential side effects on the management of patients with CKD. *Latihan pasrah diri* (LPD) is a method combining relaxation and remembrance with a focus on breathing exercises and words contained in the *dhikr* (relaxation and repetitive prayer). The rise of the relaxation response is expected to improve the symptoms of stress or depressive symptoms, which is expected to improve HRQOL.

Objective: This study aimed to determine the effect of LPD on quality of life in hemodialysis patients with depressive symptoms that was compared with controls.

Methods: The research constituted the study of Randomized Control Trial. The research was measured the KDQOL-SF scores (Kidney Disease Quality of Life-SF) in subjects with LPD treatment during 21 days, compared with controls. The research was conducted at the Hemodialysis Unit of Dr. Sardjito Hospital, Yogyakarta, from May to June 2012. A total of 36 patients who met the inclusion criteria were randomized and divided into LPD group ($n = 18$) and control group ($n = 18$).

Results: Found a statistically significant decrease in BDI scores in both groups, 23.00 ± 5.34 to 15.00 ± 8.55 ($p = 0.001$) in the LPD group and 23.00 ± 5.34 to $18.33 \pm 6, 66$ ($p = 0.022$) in the control group. KDQOL-SF scores after treatment when compared between the LPD and control groups experienced different changes were statistically significant in domains effects of kidney disease 59.65 ± 23.52 compared to 39.41 ± 20.03 ($p = 0.022$), sleep 69 ± 13.17 compared to 46.53 .

($p = 0.000$), overall health 73.89 ± 16.85 compared to 57.22 ± 19.04 ($p = 0.009$), pain 64.86 ± 20.80 compared to 42.36 ± 24.90 ($p = 0.005$), general health 53.88 ± 16.05 compared to 47.78 ± 20.74 ($p = 0.014$), and the physical component scale $35.98 \pm 6, 83$ compared to 29.12 ± 6.46 ($p = 0.004$). Despite increased KDQOL-SF domain scores, but there were 2 domains that Δ KDQOL-SF score changes were statistically significantly different compared with the control group, which was the domain of sleep and overall health.

Conclusion: *Latihan pasrah diri* twice a day during 21 days (3 weeks) can improved the quality of life of patients with symptoms depression in CKD patients undergoing hemodialysis in domains of sleep and overall health.

Keywords: CKD, depression, *latihan pasrah diri*, KDQOL-SF.

INTRODUCTION

Patients with Chronic Kidney Disease (CKD) suffer from various physical symptoms and emotional, especially, showed depression and impaired quality of life. The symptoms include fatigue, pain, muscle cramps, insomnia, and sexual dysfunctions in more than half of the patients with chronic dialysis. The high incidence can give contributions to impaired quality of life of the population.¹ Depression in patients with CKD should be managed properly because it has an enormous impact on HRQOL and its side effects, potential in the management of CKD.² In general, the arrangement of depression consists of three kinds of psychosocial intervention, pharmacotherapy and combination therapy. Psychosocial therapies include cognitive-behavioral therapy (CBT), interpersonal therapy for adolescents (IPT-A), family therapy, dynamic therapy, group therapy, and supportive therapy. Pharmacological therapy using antidepressant

medicines are such as tricyclic antidepressants (TCAs) and selective serotonin reuptake inhibitors (SSRIs).³ Mind and body therapy or intervention methods (MBT/ MBI) or also called as a stress management method is a method that uses an integrity and relationship (interconnectedness) of body and mental for repairing health. Stress management includes in relaxation training, biofeedback, imagery, prayer, meditation, cognitive therapy, behavior, and others.⁴ One of method in mind and body therapy is the practice of *latihan pasrah diri* (LPD). *Latihan pasrah diri* is a method combining between relaxation and remembrance by focusing practice on breathing and words meaning in the *dhikr* (relaxation and repetitive prayer) for

¹ Speciality Training Program of Internal Medicine, Faculty of Medicine, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta

² Department of Internal Medicine, Faculty of Medicine, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta

evoking a relaxation response, where the onset of the relaxation response is expected to improve the symptoms of stress or depression symptoms.⁵

RESEARCH METHOD

This research constituted Randomized Control Trial research for knowing the effect of Latihan Pasrah Diri (LPD) toward on quality of life in patients with CKD who undergo hemodialysis with depression symptoms compared with controls. The study was conducted on May until June 2012 at the Hemodialysis Unit Dr. Sardjito Hospital Yogyakarta. Subject population was a patient with chronic kidney disease undergoing regular hemodialysis during the research activity. Patients who became the research subjects were patients with chronic kidney disease who had undergone regular hemodialysis at least three months based on the records of hemodialysis patients Medical Record. Screening for depressive symptoms used Beck Depression Inventory (BDI) with a cut-off used is ≥ 16 . Inclusion criteria: patients with CKD in male and female sex, age ≥ 18 years to ≤ 60 years, have been undergoing regular hemodialysis twice a week at least three months at the Hemodialysis Unit with symptoms of depression and have a willingness to participate in the study by signing an informed consent. Exclusion criteria: Patients, were taken the antidepressant and psychotropic drugs, undergo psychotherapy, unable to do relaxation exercises, or refuse to join the study.

RESULTS AND DISCUSSION

A total of 170 patients were undergoing regular hemodialysis in Hemodialysis Unit Dr. Sardjito Hospital, Yogyakarta in May 2012 to June 2012. Patients with symptoms of depression were 48 people (BDI score ≥ 16) with (28.23%), when randomization obtained 7 patients died, 2 patients switched to CAPD, 2 patients change place undergo hemodialysis and 1 patient unable to relax. A total of 36 patients who met the inclusion criteria, were randomized and divided into 2 groups, the LPD group and the control group of 18 people 18 people, as shown in Figure 1.

Baseline characteristics of study subjects between LPD and control groups were no statistically significant differences in age, BMI, gender, occupation, medical insurance coverage, marital status, educational level, co morbidities, length of undergoing HD, CCT, Hb, BUN, creatinine and albumin. After 21 days LPD intervention in LPD group, conducted a reassessment of BDI scores and KDQOL-SF in both groups with the results of changes in BDI scores and KDQOL-SF, as shown in Table 2 and Table 3.

Description of table 1; BMI = Body Mass Index; PNS = Pegawai Negeri Sipil (civil servant); ASKES = Asuransi Kesehatan (Health Insurance); SD = sekolah dasar (Elementary School) ; SMP = sekolah menengah pertama (Junior High School) ; SMA = sekolah menengah atas (Senior High School); PT = perguruan tinggi (university); DM = diabetes mellitus; HD = hemodialisa; CCT= creatinin clearance test; Hb = hemoglobin; BUN = blood urea nitrogen; Creat

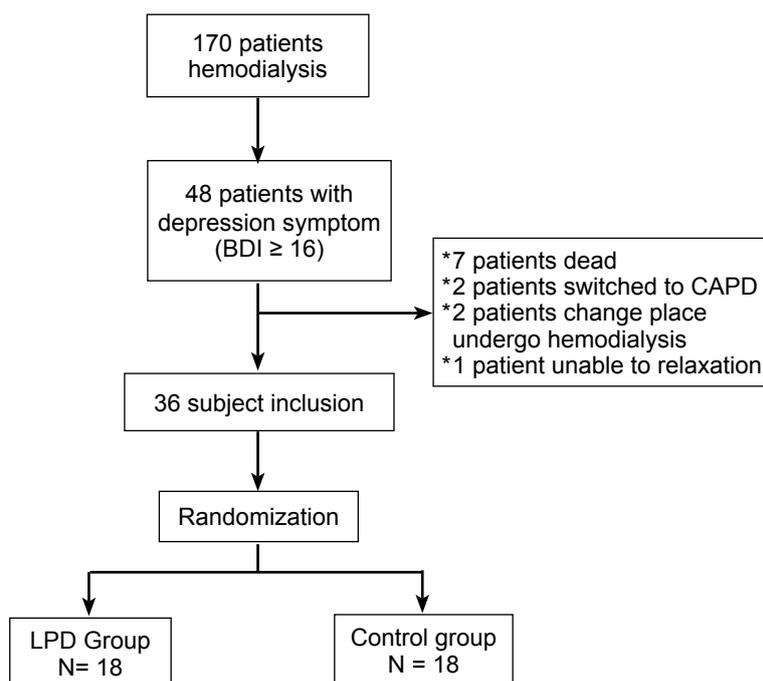


Figure 1. Flow of the study Subjects

Table 1. Baseline characteristics of study subjects

Characteristic	LPD Group (n = 18) (mean = SD)	Control Group (n = 18) (mean ± SD)	95% CI	P value
Sex : n (%)				1.000*
- male	7 (38.9)	7 (38.9)		
- female	11 (61.1)	11 (61.1)		
Age (year)	50.06 ± 7.39	47.94 ± 8.11	-3.14-7.37	0.420
BMI (kg/m ²)	20.68 ± 3.67	19.17 ± 3.2	- 0.83 – 3.83	0.199
Occupation: n (%)				0.369*
- PNS	5 (27.8)	3 (16.7)		
- Farmer	2 (11.1)	-		
- Private	4 (22.2)	6 (33.3)		
- others	7 (38.9)	9 (50.0)		
Insurance: n (%)				0.544*
- ASKES	8 (44.4)	11 (61.1)		
- Jamkesmas	8 (44.4)	4 (22.2)		
- Others Assurance	1 (5.6)	2 (11.1)		
- No warranty	1 (5.6)	1 (5.6)		
Education: n (%)				0.468*
- no school	-	2 (11.1)		
- elementary school	-	-		
- secondary school	7 (38.9)	8 (44.4)		
- senior High School	7 (38.9)	5 (27.8)		
- University	4 (22.2)	3 (16.7)		
Comorbid: n (%)				0.199*
- DM	-	-		
- Hypertension	14 (77.8)	11 (61.1)		
- DM and Hypertension	1 (5.6)	5 (27.8)		
- No comorbid	3 (16.7)	2 (11.1)		
Status:				1.000*
- Married	15 (83.3)	15 (83.3)		
- Not Married	2 (11.1)	2 (11.1)		
- Widow/Widower	1 (5.6)	1 (5.6)		
HD (month)	47.5 (6-343)	24.00 (6-144)		0.091**
CCT	6.05±3.12	5.95±1.75		0.924**
Lab:				
- Hb (gr%)	8.3 ± 1.17	9.1 ± 1.38	-1.67- 0.69	0.070
- BUN (mg/dl)	57.78 ± 22.47	59.93 ± 25.28	-20.48-9.06	0.438
- Creat (mg/dl)	11.03 ± 3.98	17.21 ± 29.53	-1.66-3.07	0.547
- Alb (mg/dl)	3.29 ± 0.46	3.21 ± 0.55	-0.27-0.43	0.642

Table 2. BDI Score Before and After Intervention

	Before Intervention	After Intervention	95% CI	P value
LPD Group (n = 18)	23,00 ± 5,34	15,00 ± 8,55	3,79	0,001
Control group (n= 18)	23,39 ± 5,02	18,33 ± 6,66	0,96-9,70	0,022

= kreatinin; Alb = albumin; SD = standard deviation; LPD = *latihan pasrah diri*. Statistical analysis using t test, except: *Chi-Square test; **Mann Withney U test. Obtained statistically significant decrease in BDI scores in both groups.

Decrease in BDI score greater in the LPD although not statistically significantly different compared with the control group (p = 0.201). BDI scores in the group amounted to 15.00 ± 8.55 LPD has dropped below the mean score of ≥16. When the comparison was done

in the KDQOL-SF domain scores before and after treatment, the recovery and improvement scores differ significantly from the LPD group in domain of sleep, social support, overall health, physical functioning, and general health. In the control group there was one significant different domain in general health. Although a lot of the increase KDQOL-SF domain scores in LPD group, but there were only 2 domains KDQOL Δ-SF score changes were statistically have a significant difference compared with the control group, which was

Table 3. KDQOL-SF Score Before and After Intervention

	Before Intervention	After Intervention	95% CI	P Value
LPD Group				
Symptom/Problems	58,45 ± 20,75	59,85 ± 21,45	-9,62-6,81	0,723
Effects of Kidney Disease	52,26 ± 26,21	59,65 ± 23,52	-15,09-5,72	0,355
Burden of Kidney Disease	22,22 ± 22,91	29,17 ± 20,22	-15,46-1,57	0,104
Work Status	47,22 ± 20,81	50,00 ± 17,14	13,13-7,57	0,579*
Cognitive Function	54,81 ± 26,06	59,26 ± 27,72	-16,79-7,91	0,458
Quality of Social Function	70,74 ± 21,34	71,85 ± 20,96	-10,37-8,14	0,803
Sexual function	53,33 ± 31,15	59,37 ± 31,59	-36,49-17,74	0,233*
Sleep	50,97 ± 18,98	69,31 ± 13,17	-26,95-9,71	0,000
Social Support	79,63 ± 19,43	85,18 ± 16,05	-17,28-6,16	0,001*
Dialysis Staff Encouragement	84,72 ± 16,91	90,28 ± 16,36	-16,47-5,36	0,280
Overall Health	53,53 ± 15,39	73,89 ± 16,85	-29,71-7,83	0,005*
Patient Satisfaction	50,93 ± 3,93	56,48 ± 19,92	-14,98-3,87	0,231
Physical Functioning	41,39 ± 21,20	50,28 ± 19,89	-15,01-2,76	0,007
Role Physical	25,00 ± 35,35	20,83 ± 23,09	-10,76-19,09	0,521*
Pain	52,64 ± 35,99	64,86 ± 20,80	-29,06-4,61	0,200*
General Health	41,39 ± 21,34	53,88 ± 16,05	-22,56-(-2,62)	0,018
Emotional Well Being	60,44 ± 30,30	67,11 ± 20,37	-14,62-1,29	0,095
Role Emotional	35,18 ± 38,73	40,74 ± 40,51	-29,85-18,73	0,719*
Social Functioning	55,55 ± 22,78	64,58 ± 26,86	-24,67-6,61	0,240
Energy Fatigue	54,17 ± 22,64	61,67 ± 21,49	-18,69-3,69	0,176
Physical Component Scale	32,82 ± 9,55	35,98 ± 6,83	-7,57-1,25	0,149
Mental Component Scale	43,66 ± 11,07	46,21 ± 9,78	-7,20-2,10	0,263
Control Group				
Symptom/Problems	56,36 ± 19,78	53,24 ± 21,97	-6,70-12,95	0,511
Effects of Kidney Disease	41,49 ± 18,77	39,41 ± 20,03	-9,40-13,56	0,707
Burden of Kidney Disease	22,57 ± 11,96	21,18 ± 17,69	-6,62-9,41	0,719
Work Status	52,78 ± 11,78	50,00 ± 17,14	-7,57-13,12	0,564*
Cognitive Function	47,78 ± 21,48	48,15 ± 25,42	-12,43-11,69	0,949
Quality of Social Interaction	57,78 ± 22,40	61,11 ± 19,57	-11,15-4,48	0,381
Sexual Function	52,08 ± 27,09	37,50 ± 37,34	-4,09-41,59	0,098
Sleep	49,86 ± 10,72	46,53 ± 17,86	-4,54-11,21	0,384
Social Support	82,41 ± 16,63	81,48 ± 19,71	-10,25-12,18	0,859*
Dialysis Staff Encouragement	84,02 ± 15,34	86,11 ± 13,48	-10,68-6,51	0,677*
Overall Health	56,67 ± 12,37	57,22 ± 19,04	-9,97-8,86	0,902
Patient Satisfaction	48,15 ± 7,85	49,07 ± 8,99	-2,88-1,08	0,317*
Physical Functioning	33,61 ± 20,99	35,00 ± 25,55	-11,25-8,47	0,770
Role Physical	5,55 ± 13,70	5,56 ± 13,71	-4,26-4,26	1,000*
Pain	36,94 ± 21,36	42,36 ± 24,90	-19,16-8,33	0,417
General Health	28,06 ± 20,94	47,78 ± 20,74	-17,56-1,88	0,018
Emotional Well Being	56,88 ± 17,17	58,22 ± 14,79	-10,58-7,92	0,765
Role Emotional	11,11 ± 22,87	22,22 ± 37,92	-32,28-10,16	0,359*
Social Functioning	50,69 ± 22,87	50,69 ± 21,20	-13,31-13,31	1,000
Energy Fatigue	52,22 ± 16,19	52,50 ± 14,88	-9,02-8,64	0,757*
Physical Component Scale	28,03 ± 5,82	29,12 ± 6,46	-4,42-2,22	0,494
Mental Component Scale	40,01 ± 5,65	41,67 ± 6,90	-5,19-1,88	0,336

Description: Statistical analysis using paired t test, except: *Wilcoxon test.

the domain of sleep and overall health. During the study did not reveal any adverse effects of treatment. The average patient LPD group declared an improvement in the quality of sleep, the body feels fresh, loose breath and feeling calmer, corresponding to an increase.

KDQOL-SF questionnaire scores on the domain of sleep, social support, overall health, physical functioning, and general health. There were no drops out in the LPD intervention in LPD group, with 95.2-100% compliance. CAM research on regular hemodialysis patients was implemented by Ling *et al.* (2003) on the

effects of tai chi-based exercise held in China for 3 months.⁶ Yurtkuran *et al.* (2007) assess the program were modified yoga-based exercise held in Turkey as well for 3 months.⁷ This research was done in less time 21 days and showed improved results compared to other studies that required more times. This difference was due to the LPD combining relaxation and dhikr with a focus on breathing exercises and words contained in the *dhikr* (relaxation and repetitive prayer), and done independently wherever the patient located. Limitations of this study because it was not able to control the

factors or variables that affected the quality of life of the patients, and no record of physical activity, diet, and social and religious activities of each research subject. Another limitation was the number of the samples that did not met the target, which should each group of 22 people, but in this study was obtained 18 people, there were no parameters to ensure the condition of the subject that has been done LPD if it were really resigned, the bias in the conduct of research as well as a limitation of this study. Further research was needed to further assess sustainability LPD intervention at a later time (in the second, third, and so on).

CONCLUSION

Latihan pasrah diri can improve the quality of life of patients with symptoms of depression CKD undergoing regular hemodialysis on the domain of sleep and overall health.

For some advices there are:

1. Necessary to study the effects of LPD on aspects of metabolic control inpatients with symptoms of depression CKD with respect to:
 - a. Aspects that cause depression in patients with CKD.
 - b. Blood or urine cortisol levels to determine how much current levels of depression, as well as to measure the effect of LPD.
2. Need to research in the longer term time LPD and sustainability, so as to examine the long-term effects.
3. Need to do research with a larger sample size.
4. Need an in-depth analysis or exclusion of the factors that can lead to bias in this study.

REFERENCES

1. Kader, K.A., Unruh, M.L., et Weisbord, S.D., 2007. Cited 28 Oktober 2010. Symptom Burden, Depression, and Quality of Life in Chronic and End-Stage Kidney Disease. ISSN: 1555-9041/406-1057.
2. Tossani E, Cassano P, Fava M. Depression and renal disease. *Semin Dial* 2005;18 (2): 73-81.
3. Bonin L & Moreland, C.S., 2008. Overview of treatment for adolescent depression, Up To Date 16.3 version.
4. Steyer, T. E., 2001. Complementary and Alternative Medicine: A Primer: Family Practice Management. Americans Academy of Family Physicians; p: 37-42. Downloaded from www.aafp.org/fpm
5. Dharma, A.D., 2006. Pengaruh Latihan pasrah diri terhadap Kontrol Gula Darah pada Penderita Diabetes Melitus Tipe 2 Dengan Gejala Depresi (tesis), Universitas Gadjah Mada, Program Pasca Sarjana, Yogyakarta.
6. Ling, K., Wong, F.S.Y., Chan, W., Chan, S., Chan, E.P.Y., Cheng, Y., Yu, W., 2003. Effect of A Home Exercise Program based on Tai-Chi in Patients With End Stage Renal Disease. *Permit dial Int.* 23 (S2): 99-103.
7. Yurtkuran, M., Alp, A., Dilek, K., 2007. A Modified Yoga-Based Exercise Program in Hemodialysis Patient: A randomized Controlled Study. *Complementary Therapies in Medicine.* 15: 164-71.