

Effect of Yoga-Nidra Programme on Depression, Anxiety, and Stress among Patients with Chronic Kidney Disease Receiving Haemodialysis

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ABSTRACT

Kidney disease is a non-communicable disease which affects 10% population worldwide. A study conducted by Harvard Medical School in partnership with 13 medical centers all over India found that 17% of Indians have some form of chronic kidney disease. Stress, anxiety and depression are very common with Kidney diseases receiving haemodialysis. A Non-equivalent control group pretest post-test design was used to assess the effectiveness of yoga nidra programme on reducing depression, anxiety, and stress among patients with chronic kidney disease receiving haemodialysis. Sample was collected by using purposive method and divided into experimental and control group. DASS 21 tool was used to assess the stress, anxiety and depression. Before giving Yoga-nidra programme pretest was done for both the group using DASS 21 tool. After Yoga-nidra programme is given to the experimental group, again posttest was done for both the group using same tool. Paired t test was done to see the effectiveness of the intervention. Result of the paired t test was found significant in experimental group. In control group, there is no significant reduction of stress, anxiety and depression with no intervention. Study result showed Yoga-nidra is a very effective relaxation technique in reducing stress, anxiety and depression among patients receiving haemodialysis.

Key Words: Relaxation Therapy, Mental Health, Dialysis, Renal Insufficiency, Anxiety, Depression

INTRODUCTION

The prevalence of non-communicable diseases (NCDs) is surging globally. Chronic Kidney disease is a non-communicable disease which affects 10% population worldwide. Chronic kidney disease is an umbrella term that describes kidney damage or a decrease in the glomerular filtration rate (GFR) lasting for 3 months. 2010 Global Burden of Disease study ranked chronic kidney disease 27th in the list of causes of total number of deaths worldwide in 1990, but rose to 18th in 2010. Over 2 million people worldwide currently receive treatment with dialysis or a kidney transplant to stay alive.¹ A study conducted by Harvard Medical School in partnership with 13 medical centers all over India found that 17% of Indians have some form of chronic kidney disease. Statistics suggest

that 20,00,000 people should be there in India on dialysis today. The reality is that there are only about 1,00,000.²

Stress, anxiety and depression are the three terms often used interchangeably though has different meaning. Stress is a normal part of life. But, if it is constant, it can harm. It is usually characterized by a sense of feeling overwhelmed. Anxiety is nothing but a sense of fear. Depression is to an occurrence which is called "low mood".³ Stress, anxiety and depression often linked with persistent diseases. In a study, it was found that 63.9% of haemodialysis patients had anxiety, 60.5% had depression and 51.7% had stress.⁴

"Stress, anxiety, depression can make physical problems worse. According to Dr. Jacobs, a depressed person is less likely to take care of physical health, cutting

back on or skipping rehabilitation exercises and/or taking medication. Once depression is treated, and a person's energy and activity level increases, quality of life will rise, too. So it's all about taking that first step. Patients should be taught ways to relax and relieve stress, anxiety, depression. Yoga nidra is a systematic method of inducing complete physical, mental and emotional relaxation.^{5,6}

Mental and behavioral problems are growing part of the health problems all over the world. The burden of illness resulting from psychiatric and behavioural disorders is enormous. Although it remains grossly under represented by conventional public health statistics.⁷ Depression is a common, under-recognized, and under-treated problem that is independently associated with increased morbidity and mortality in CKD patients. But, only few of CKD patients with depression are treated with antidepressant medications or nonpharmacologic therapy. Non-pharmacologic treatment was found affective in resolving depression, anxiety among dialysis patients.⁸ Yoga nidra, which is derived from the tantras, is a powerful technique in which one learn to relax consciously. Anxiety and depressive symptoms improve significantly with 'Yoga Nidra' intervention.^{6,9}

The researcher from her experience in clinical field found the evidence of increase stress, anxiety, and depression among dialysis patients. Moreover there is paucity of literature of using yoga nidra in patients with chronic kidney disease and. Hence the researcher felt the need to conduct a study on yoga nidra programme on reducing stress, anxiety and depression. This study may help the dialysis patients to decrease stress, anxiety, depression cost effectively and improve mental health.

MATERIALS AND METHODS

In this present study, Non-equivalent control group pretest post-test design was used to assess the effectiveness of yoga nidra programme on reducing depression,

anxiety, and stress among patients with chronic kidney disease receiving haemodialysis. The Study was conducted in the Nephrology Ward of Gauhati Medical College and Hospital, Assam, India. 30 samples were collected purposively for the study; among them 15 were included in experimental group and another 15 were included in control group.

Criteria for sample selection

Inclusion criteria:

1. Patients who gave written consent to undergo yoga nidra programme
2. Patients diagnosed with chronic kidney disease and at least 1 months after their first hemodialysis
3. Patients who had depression, anxiety, and stress and not taken any medications to control signs of depression, anxiety, and stress.

Exclusion criteria:

1. Patients who do not understand Assamese language.
2. Patients who have co-morbid disease condition except diabetes mellitus and hypertension.

Pretest was done by using DASS-21 tool for both the group. After the pretest done, Yoga nidra programme was given to experimental group for twice daily for 15 days. One session was of 10 minutes. After 15 days of the programme, posttest was done by using the same tool for both the group.

The data was analyzed by using the statistical Package for Social Sciences (SPSS), Version 18. Inferential statistical methods like paired t-test was used to determine the effectiveness of yoga nidra. Level of significance was calculated at the 0.05 level

RESULT

Table 1 shows Frequency and Percentage of Demographic data of Control and Experimental group and its association with stress, anxiety and depression. Data shows majority of the sample age were less

than 50 years i.e. 40% in case of experimental group and 36.67% in case of control group. In both the group majority belonged to male gender. All the samples were married. In both the group 20% had the illness for more than 1 year to 3 years. There are 36.6% in the experimental group

and 30% in the control group had hypertension without diabetes mellitus; and 13.3 % in experimental group and 20% in control group had both hypertension and diabetes mellitus. Table also shows Demographic variables had no significant relation with stress, anxiety and depression.

Table 1: Frequency and Percentage distribution of Demographic data of Control and Experimental group, N=30

Variables		Experimental Group		Control Group		Chi-square value Df p value of Stress	Chi-square value Df p value of Anxiety	Chi-square value Df p value of Depression
		Frequency	Percentage	Frequency	Percentage			
Age	≥50 years	3	10%	4	13.3%	0.551	0.050	1.429
	<50 years	12	40%	11	36.67%	2 0.759 ^{NS}	2 0.975 ^{NS}	3 0.699 ^{NS}
Gender	Male	10	33.33%	11	36.67%	0.462	0.305	5.661
	Female	5	16.67%	4	13.3%	2 0.794 ^{NS}	3 0.858 ^{NS}	3 0.129 ^{NS}
Marital status	Married	15	50%	15	50%	--	--	--
	Unmarried	0	0%	0	0%			
Duration of illness	0 – 1 year	4	13.3%	6	20%	7.504	8.877	4.364
	>1years – 3 years	6	20%	6	20%	4	4	6
	>3years	5	16.67%	3	10%	0.112 ^{NS}	0.064 ^{NS}	0.628 ^{NS}
Co- morbid condition	Only Diabetes Mellitus (DM)	0	0%	0	0%	1.598	2.515	5.313
	Only Hypertension (HTN)	11	36.67%	9	30%	2 0.450 ^{NS}	2 0.284 ^{NS}	3 0.150 ^{NS}
	Both Diabetes Mellitus (DM) and Hypertension (HTN)	4	13.3%	6	20%			
	Other	0	0%	0	0%			

Table 2: Frequency and Percentage distribution of sample according to Stress, Anxiety, and Depression, N=30

Variable		Experimental				Control			
		pretest		Posttest		Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Stress	Normal			4	13.3%				
	Mild	4	13.3%	10	33.33%	2	6.67%		
	Moderate	11	36.67%	1	3.33%	12	40.0%	11	36.67%
	Severe					1	3.33%	4	13.3%
	Extremely Severe								
Anxiety	Normal							2	6.67%
	Mild							3	10.0%
	Moderate	7	23.33%	11	36.67%	6	20.0%	2	6.67%
	Severe	5	16.67%	3	10.0%	7	23.33%	5	16.67%
	Extremely Severe	3	10.0%	1	3.33%	2	6.67%	3	10.0%
Depression	Normal								
	Mild			1	3.33%	2	6.67%	1	3.33%
	Moderate	9	30.0%	13	43.33%	9	30.0%	11	36.67%
	Severe	5	16.67%	1	3.33%	3	10.0%	3	10.0%
	Extremely Severe	1	3.33%			1	3.33%		

Table 2 shows Frequency and Percentage distribution of Stress, Anxiety, and Depression among Patients with Chronic Kidney Disease receiving Haemodialysis. In both the group before

giving yoga-nidra therapy, majority had moderate stress; 36.6% in the experimental group and 40.0% in case of control group. In posttest majority (33.33%) in the experimental group had mild stress whereas

in case of control group majority (36.67%) had moderate stress. Before intervention both the group were showing moderate to extremely severe anxiety. In posttest, only 3.33% in case of experimental group showed extremely severe anxiety whereas 10% of control group showed extremely

severe anxiety. In case of depression, majority in both the group had moderate level of depression before intervention. After intervention, in experimental group only 3.33% had severe depression but in control group 10% had severe depression.

Table 3: Assessment of Effectiveness Yoga-Nidra Programme on Stress, Anxiety, and Depression among Patients with Chronic Kidney Disease receiving Haemodialysis by paired t test; N = 30 (Experimental group = 15, control group = 15)

Variables		Mean	t	df	p value	
Stress	Experimental Group	Pretest	20.8000	6.165	29	.000**
		Posttest	13.6000			
	Control Group	Pretest	22.9333	-1.404	29	.182 ^{NS}
		Posttest	24.2667			
Anxiety	Experimental Group	Pretest	15.6000	2.276	29	.039*
		Posttest	13.2000			
	Control Group	Pretest	15.2000	-.764	29	.458 ^{NS}
		Posttest	15.6000			
Depression	Experimental Group	Pretest	20.6667	4.895	29	.000**
		Posttest	17.0667			
	Control Group	Pretest	19.7333	.242	29	.812 ^{NS}
		Posttest	19.4667			

*significance at $p < 0.05$, **significance at $p < 0.01$, NS – Not Significant

Table 3 is showing the paired t test value with mean, degree of freedom and p value. The table is showing in case of experimental group, there is significant difference in stress, anxiety and depression among pretest and posttest score at the level of 0.05. But in case of control group, there is no significant difference in pretest stress, anxiety, depression with posttest stress, anxiety, depression.

DISCUSSION

The present study result shows majority of the participants belonged to the age group of less than 50. Most of them in both experimental (20%) and control group (20%) have illness more than 1 year to 3 years. Result also showed there is no significant relationship of any of the demographic variable with stress, anxiety and depression. Data showed in pretest both experimental and control group were showing same characteristics related to stress, anxiety and depression; whereas in posttest stress, anxiety and depression are significantly reduced in experimental group, but in control group it almost remain same or increase more. Pretest stress score showing both in experimental (36.67%) and control(40%) group moderate stress level

participants were more. In posttest we can see stress in experimental group majority (33.33%) shifted to mild stress level from moderate stress level; on the contrary in case of control group, still majority (36.67%) had moderate level of stress. Regarding anxiety in pretest 23.33% had moderate level of anxiety, 16.67% had severe of anxiety and 10% had extremely severe level of anxiety in experimental group; but after intervention only 3.33% had extremely severe level anxiety. On the contrary in control group 6.67% had extremely severe level of anxiety in pretest and in posttest 10% had extremely severe level of anxiety. Regarding depression also almost same pattern of data are shown. In experimental group, severe depression reduces from 16.67% to 3.33% after intervention; whereas in control group pretest and posttest severe level depression remained same i.e. 10%.

The study result also showed the yoga-nidra programme is effective on decreasing stress, anxiety and depression among Patients with Chronic Kidney Disease receiving Haemodialysis. For that paired t- test is done to see the effectiveness of it. Paired t-test result between pretest and posttest stress in experimental group was

found as follows t was 6.165, df was 29 and p-value was 0.000; which means there is highly significant decrease of stress among experimental group after yoga-nidra programme. But in control group there is no significant decrease of stress between pretest and posttest (t was 2.276, df was 29 and p-value was 0.182^{NS}). In case of anxiety also yoga-nidra is effective since experimental group showed (t was -1.404, df was 29 and p-value was 0.039^{*}) significant decrease while control group does not show (t was -0.764, df was 29 and p-value was 0.458^{NS}) significant decrease between pretest and posttest score. Yoga-nidra is also effective in decreasing depression among Haemodialysis patients as the paired t test value in experimental group (t was 4.895, df was 29 and p-value was 0.000^{*}) showing significant result while in control group (t was 0.242, df was 29 and p-value was 0.812^{*}) it is not significant. Hence the study revealed that Yoga-nidra programme is effective on reducing Stress, Anxiety, and Depression among Patients with Chronic Kidney Disease receiving Haemodialysis.

The study result is supported by previous studies.^{10,11,12,13,14} A study done by Rani K, Tiwari S, Singh U, Singh I, and Srivastava N (2012) on Yoga Nidra as a complementary treatment of anxiety and depressive symptoms in patients with menstrual disorder. found significant reduction of scores in anxiety (P<0.003) and depression (P<0.02) respectively in subjects with mild to moderate anxiety and depressive symptoms after six months of yoga therapy (Yoga Nidra) in intervention group in comparison to control group. It shows yoga nidra is effective against anxiety and depression.¹⁰ Another study done by Vorkapic C, Borba-Pinheiro C, Marchioro M and Santana D on The impact of yoga Nidra and seated meditation on the mental health of college professors showed reduction in anxiety and stress levels after yoga-nidra programme.¹⁴

CONCLUSION

The study findings showed patients with Chronic Kidney Disease receiving Haemodialysis had stress, anxiety and depression irrespective of their demographic difference. Yoga-Nidra Programme has positive effect on reducing Stress, Anxiety, and Depression among Patients with Chronic Kidney Disease receiving Haemodialysis. It could be performed as routine procedure to reduce stress, anxiety and depression among patients with chronic kidney disease. Research study also can be done on other relaxation technique in reducing stress, anxiety and depression.

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