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A pilot study on effect of yoga-nidra programme on depression, anxiety, and stress among patients with chronic kidney disease receiving haemodialysis

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Abstract

Non-communicable diseases are increasing globally. Chronic Kidney diseases have major health impact in developing countries leading to dialysis. It affects almost 800 million people worldwide. Chronic diseases often lead to mental health issue as it increases stress, anxiety and depression. The study aimed to assess the effectiveness of Yoga-Nidra programme on reducing stress, anxiety and depression among chronic kidney disease patient. The study purposively selected 30 participants (15 for experimental group, another 15 for control group). Yoga-Nidra programme is given to experimental group for 30 days and DASS-21 tool was used. Study result showed significant decrease in Stress (t 9.403, p value 0.000), Anxiety (t 3.417, p value 0.004) and Depression (t 7.152, p value 0.000) among experimental group.

Keywords: Relaxation therapy, mental health, dialysis, renal insufficiency, anxiety, depression

Introduction

Chronic kidney disease is a non communicable disease that affects more than 10% of the general population worldwide which means more than 800 million individuals. Chronic kidney disease is an umbrella term that describes kidney damage or a decrease in the glomerular filtration rate (GFR) lasting for 3 months. It has emerged as one of the leading causes of death worldwide and it represents a large burden in low income countries which are not properly equipped to deal with it ^[1, 2]. According to report over 2 million people worldwide at present needed treatment with dialysis or a kidney transplant to be 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 recommended that there should be approximately 20,00,000 people on dialysis in India today. The reality is that there are only about 1,00,000 are in dialysis ^[3].

Mental health is utmost important part of health and healthy life. Chronic disease always has a major role in mental health as it tends to increase stress, anxiety and depression. A study result showed 63.9% of haemodialysis patients had anxiety, 60.5% had depression and 51.7% had stress ^[4]. Depleted mental health can make physical problems worse; as a depressed person is less likely to take care of physical health, cutting back on or avoiding rehabilitation programmes and/or taking medication. Once the mental health is improved, and a person's liveliness and activity level increases, quality of life will ascend too. So it's important to take that first step to improve mental health. 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]. Yoga nidra, is derived from the tantras and it is a powerful technique in which one learn to relax consciously. It shows significant improvement in anxiety and depressive symptoms ^[7].

It was observed by the researcher in clinical field found that there is increase stress, anxiety, and depression among dialysis patients. Moreover as India is a developing country and chronic kidney diseases are increasing day by day. There is very less literature found related to this topic. Therefore the researcher felt the need to conduct a study on yoga nidra programme on reducing stress, anxiety and depression.

Materials and Methods

In the 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 in the Gauhati Medical College and Hospital of Assam (Nephrology Ward). 30 number of Sample were selected purposively. Among 30 patients, 15 was included in experimental group, and another 15 was included in control group. A written

informed consent was taken from all the participants and depression, anxiety, stress was assessed by administering the DASS-21 tool for both group. Yoga nidra programme was given to the experimental group for twice daily for 30 days. One session was of 10 minutes. After 30 days, depression, anxiety, stress level will be assessed by using the same DASS-21 tool for both the group. Data were analysed using SPSS at 0.05 level of significance.

Result

Table 1: Frequency and Percentage distribution of Demographic data of Control and Experimental group

N = 30 (Experimental group = 15, control group = 15)

| Variables | Experimental Group | | Control Group | | |
|----------------|--------------------|------------|---------------|------------|-------|
| | Frequency | Percentage | Frequency | Percentage | |
| Age | ≥50 years | 7 | 23.33 | 9 | 30.0 |
| | <50 years | 8 | 26.67 | 6 | 20.0 |
| Gender | Male | 7 | 23.33 | 10 | 33.33 |
| | Female | 8 | 26.67 | 5 | 16.67 |
| Marital status | Married | 15 | 50.00 | 15 | 50.00 |
| | Unmarried | 0 | 0.00 | 0 | 0.00 |
| Type of Family | Nuclear | 8 | 26.67 | 9 | 30.0 |
| | Joint | 7 | 23.33 | 6 | 20.0 |
| Residence | Urban | 4 | 13.33 | 6 | 20.0 |
| | Rural | 11 | 36.67 | 9 | 30.0 |

Table 1 is showing demographic characteristics of the samples. In Experimental group, 23.33% were more than 50 years of age; whereas in control group 30% belonged to

more than 50 years age. There in no one unmarried in both the group.

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

N = 30 (Experimental group = 15, control group = 15)

| Variable | Experimental | | | | Control | | | | |
|------------|------------------|------------|-----------|------------|-----------|------------|-----------|------------|-------|
| | Pretest | | Posttest | | Pretest | | Posttest | | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage | |
| Stress | Normal | 0 | 0.00 | 11 | 36.67 | 0 | 0.00 | 1 | 3.33 |
| | Mild | 10 | 33.33 | 4 | 13.33 | 9 | 30.0 | 7 | 23.33 |
| | Moderate | 5 | 16.67 | 0 | 0.00 | 6 | 20.0 | 7 | 23.33 |
| | Severe | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| | Extremely Severe | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Anxiety | Normal | 0 | 0.00 | 3 | 10.00 | 0 | 0.00 | 0 | 0.00 |
| | Mild | 2 | 6.67 | 1 | 3.33 | 0 | 0.00 | 0 | 0.00 |
| | Moderate | 6 | 20.00 | 11 | 36.67 | 8 | 26.67 | 7 | 23.33 |
| | Severe | 4 | 13.33 | 0 | 0.00 | 4 | 13.33 | 6 | 20.00 |
| | Extremely Severe | 3 | 10.00 | 0 | 0.00 | 3 | 10.00 | 2 | 6.67 |
| Depression | Normal | 0 | 0.00 | 5 | 16.67 | 0 | 0.00 | 0 | 0.00 |
| | Mild | 3 | 10.00 | 6 | 20.00 | 3 | 10.00 | 2 | 6.67 |
| | Moderate | 11 | 36.67 | 3 | 10.00 | 12 | 40.00 | 13 | 43.33 |
| | Severe | 0 | 0.00 | 1 | 3.33 | 0 | 0.00 | 0 | 0.00 |
| | Extremely Severe | 1 | 3.33 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |

Table 2. depicts pretest and posttest stress, anxiety and depression among Patients with Chronic Kidney Disease receiving Haemodialysis. Table shows 33.33% in experimental group and 30% in control group had mild stress before intervention. In posttest shows in majority i.e. 36.67% in experimental group had normal stress and in control group only 3.33% had normal stress. In pretest

majority has moderate level of anxiety in both experimental (20.0%) and control group (26.67%); whereas in posttest 10% level of anxiety in experimental group came to normal. In case of depression, majority in both the group had moderate level of depression before the intervention. In posttest, 16.67% in experimental group depression came back to normal.

Table 3: Assessment of Effectiveness Yoga-Nidra Programme on Depression, Anxiety, and Stress 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 | 16.9333 | 9.403 | 0.000** |
| | | Posttest | 8.933 | | |
| | Control Group | Pretest | 17.2000 | 0.323 | 0.751 ^{NS} |
| | | Posttest | 17.0667 | | |
| Anxiety | Experimental Group | Pretest | 15.2000 | 3.417 | 0.004** |
| | | Posttest | 10.4000 | | |
| | Control Group | Pretest | 15.6000 | -1.740 | 0.104 ^{NS} |
| | | Posttest | 16.1333 | | |
| Depression | Experimental Group | Pretest | 16.6777 | 7.152 | 0.000** |
| | | Posttest | 10.9333 | | |
| | Control Group | Pretest | 15.7333 | -1.741 | 0.105 ^{NS} |
| | | Posttest | 16.2666 | | |

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

Table 3 shows Effectiveness Yoga-Nidra Programme on Depression, Anxiety, and Stress among Patients with Chronic Kidney Disease receiving Haemodialysis. Paired t-test was done assess the effectiveness of Yoga-nidra programme among both the group. Result showed that Stress (t 9.403, p value 0.000), anxiety (t 3.417, p value 0.004) and depression (t 7.152, p value 0.000) significantly reduce in case of experimental group. But in case of control group there is no significant reduction stress (t 0.323, p value 0.751), anxiety (t -1.740, p value 0.104) and depression (t -1.741, p value 0.105).

Here we can accept that there is significant mean difference in pretest and posttest stress, anxiety and depression of experimental group among patients with chronic kidney disease receiving haemodialysis.

Discussion

The present study result shows after intervention stress, anxiety and depression among experimental group decrease in comparison to control group. The study result shows before Yoga-Nidra therapy, in both experimental and control group stress, anxiety and depression is almost same. But in posttest result stress, anxiety and depression significantly decreased in case of experimental group. After the Yoga-Nidra therapy, in the experimental group 36.67% has no stress; 10% anxiety came to normal and 16.67% has depression.

Paired t-test was done to see the effectiveness of Yoga-Nidra programme on stress, anxiety and depression. Paired t-test value for Stress (t 9.403, p value 0.000), anxiety (t 3.417, p value 0.004) and depression (t 7.152, p value 0.000) significantly reduce in case of experimental group. But in case of control group there is no significant reduction stress (t 0.323, p value 0.751), anxiety (t -1.740, p value 0.104) and depression (t -1.741, p value 0.105). It means Yoga-Nidra effectively decreases stress, anxiety and depression among dialysis patients.

The study result is supported by similar studies [7, 8, 9, 10, 11]. Moszeik E.N., Von Oertzen T and Renner KH has done a study on Effectiveness of a short Yoga Nidra meditation on stress, sleep, and well-being in a large and diverse sample on 2020 through a online study design. 859 participants registered on the study's website. Participants were randomly assigned to one of two conditions automatically by Unipark software. In total, the study included 341 participants in the meditation and 430 in the control group. The study result shows 11 minute of Yoga-Nidra

programme has great influence stress, sleep, and well-being [9]. Another study shows Yoga-Nidra improved the mental health of college professors and reduce anxiety and stress levels [11].

Conclusion

The study findings shows patients with Chronic Kidney Disease receiving Haemodialysis has some level of stress, anxiety and depression. Yoga-Nidra Programme shows a great impact in 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 replicated on other relaxation or mindfulness technique. The procedure can come up as a saving grace in this era of mental health issue not only in dialysis patients but in day to day life.

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