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Effectiveness of yoga on quality of life of patients undergoing hemodialysis

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Abstract

Background

ESRD patients' quality of life is evaluated. Because it requires lifelong care in the form of hemodialysis or renal replacement therapy, the patients' quality of life may be significantly diminished. Thus, the study's primary objective is to assess hemodialysis patients' quality of life (QOL) based on WHO QOL standards.

Objective

To assess the effectiveness of yoga on quality of life among hemodialysis patients

Methodology

Research carried out selected dialysis hospital and data collector. Tool were prepared and checked, validated. Used SPSS software for analysis of data. Used different analysis test. To conclude the study finally identified association between dependent and independent variables.

Result

Revealed that Comparison of Control group and Experiment group with QOL scores at different visits, at 1st visit quality of life of hemodialysis patients in control group Mean 41.00 and SD 3.76 in experimental group 41.62 and SD 4.09. 2nd ,3rd visit,4th visit and 5th visit the quality of life of hemodialysis patients in experimental group $p < 0.05$.it shows that physical health, psychological health and social relationship improves with the help of yoga therapy.

revealed that socio-demographic variables age, gender, educational status, occupation, family monthly income, marital status and Duration of receiving hemodialysis **were** no statistically significant relationship with quality of life of hemodialysis patients'P<0.05

Conclusion

Happiness, excitement, inspiration, activeness, alertness, awareness, degree of stability, self-confidence, mental clarity, anger management, and self-reflection were all statistically significantly improved in the intervention group as a result of guided meditation. It made people feel less stressed. It enhanced the overall Kidney Disease Quality of Life score, kidney disease symptoms, and the burden and impact of kidney disease. Among other psychological elements, the qualitative aspects of wellbeing (as revealed by the examination of diary entries) include feelings of calm and inspiration to deal with the illness and carry on with daily tasks, mental clarity, happiness, and concentration, as well as a decrease in indolence, an improvement in sleep patterns, and a decrease in anger.

Keywords: Quality of life, Yoga, hemodialysis, Patient, Hospital,

Introduction:

Over the past few decades, quality of life (QOL) study endpoints have grown in importance as research tools for assessing how well treatment interventions work for chronic conditions. One such chronic illness that significantly impairs a patient's quality of life in many areas of their life is end-stage renal disease (ESRD)[1].

With the advent of various renal replacement therapies (RRT), patients with end-stage renal disease (ESRD) now enjoy a longer survival period and fewer severe symptoms. Treatment with hemodialysis is expensive, time-consuming, and requires hydration and food restrictions. A loss of freedom, dependency on a job, disruptions to social, familial, and marital connections, and reduced or lost financial income are some of the real adverse effects of long-term dialysis therapy. The physical, psychological, socioeconomic, and environmental aspects of life are negatively impacted by these issues, which reduces quality of life[2].

Over the past few decades, quality of life (QOL) study endpoints have grown in importance as research tools for assessing how well treatment interventions work for chronic conditions. One such chronic illness that significantly impairs a patient's quality of life in many areas of their life is end-stage renal disease (ESRD). Over the past few decades, meditation has gained prominence as a potential intervention to reduce stress and anxiety in the modern world. Meditation is a type of mind-body intervention because it lowers stress hormone levels and uses parasympathetic nervous system mechanisms to assist the mind adjust to the body's clinical symptoms[3].

The term "well-being" in the context of ancient Indian psychology refers to the consciousness and manifestation of a transcendental state of awareness that is accessible to humans. Yoga is the study of how man tries to transcend the boundaries of his everyday mental awareness and reach a higher level of spiritual consciousness, moving from the phenomenal to the actual man[4].

Methods

Study area and period

Research carried out in specialty dialysis hospital, hospital and having all the facility, in patients and outpatients' departments and research period was one month.

Study design

Quasi experimental research design experimental group and control group

Population

Source and study population

Every dialysis patients admitted at selected hospitals and needed proper enquiry about population.

Sampling strategy

Sample was selected through convenience sampling method

Research Involved and excluded of respondent

Study involved:

- All dialysis patients who are admitted at selected hospitals
- Dialysis patients interested to participate in research

Elimination from research:

- Dialysis patients not there during research period
- dialysis patients suffering with severe complication

Sample size

26 Hemodialysis patients (13 experimental group, 13 control group)

Variables

Dependent Variable

Yoga is the dependent variable

Independent variables (Socio-demographic variables):

Age, Gender, marital status, occupation, educational status, Duration of receiving hemodialysis

Operational definition

Hemodialysis: is a life-saving treatment for kidney failure that *removes waste and extra fluids from the blood* and regulates blood pressure.

Patient: is the range of ages for *persons* nearing and surpassing life expectancy.

Quality of life: *Quality of life*, *the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events*.

Yoga: is a mind and body practice that can build strength and flexibility. It may also help manage pain and reduce stress**.**

Hospital: is the place providing promotive, preventive and curative health services to hemodialysis patients

Data quality control

One week before the main collecting the data, the tools were identified on five percentage of the total size of sample in a different location to assess their effectiveness. Insights from this pretest led to revisions that aligned the questionnaires more closely with the study's goals. Throughout the data collection process, we ensured data consistency by rigorously monitoring the data collectors and their methods, and by routinely reviewing the collected data. Any errors or misinterpretations in the questionnaires were promptly addressed by supervisors, who collaborated with the principal investigators to make necessary adjustments before the next day's collection.

Interpretation of result analysis

Before the study commenced, the information collected was cleaned, numbered, and input into the analysis software. The data will be analyzed using SPSS version 23, with results presented through detailed descriptions, including tabulation, scope, and cross-tabulations test was used to see the effectiveness of yoga on improving quality of life. Associations between study and non study variables if probability value less than and equality to 0.05 will be regarded as important analysis.

Result:

Table:1 Comparison of Control group and Experiment group with demographic characteristics 13+13=26

Demographic characteristics	**Control group**	**%**	**Experiment group**	**%**
Age groups				
45 to 54years	6	46.15	6	46.15
55 to 64years	5	38.46	5	38.46
Above 65years	2	15.38	2	15.38
Gender				
Male	6	46.15	6	46.15
Female	7	53.85	7	53.85

Educational Status				
Primary Education	2	15.38	3	23.08
Secondary Education	6	46.15	5	38.46
Under Graduate	3	23.08	3	23.08
Post Graduate	2	15.38	2	15.38
Occupation				
Private employee	2	15.38	2	15.38
Government Employee	6	46.15	6	46.15
Farmer	1	7.69	1	7.69
Housewife	4	30.77	3	23.08
Retired	0	0.00	1	7.69
Monthly Family Income (in Rs)				
<25000	4	30.77	5	38.46
25001 to 50000	6	46.15	6	46.15
Above 50001	3	23.08	2	15.38
Marital Status				
Single	2	15.38	2	15.38
Married	9	69.23	8	61.54
Widow/ Divorced	2	15.38	3	23.08
Duration of receiving hemodialysis				
<=6 months	3	23.08	3	23.08
7-9 months	5	38.46	5	38.46
10-12 months	5	38.46	4	30.77

13-24 months	0	0.00	1	7.69
Total	13	100.0	13	100.0

Above table 1 revealed that involvement of 26 hemodialysis patients involved in the research. Of these, In experimental group 6 participants (46.15%) were aged between 45-54 years,5(38.46%) were 55 to 64 years, and 2 participants (15.38%) were above 60 years old. In terms of gender, 7 (53.85%) were female and 6 (46.15%) were male. Regarding educational status, 5 respondents (38.46%) were secondary education, 3(23.08%) were primary and under graduate and 2 (15.38%) were postgraduate. Occupational status of patients 6(46.15%) were government employee,3(23.08%) were housewife,2(15.38%) were private employee and 1(7.69%) were farmer and retired.

As for family monthly income, 6 (46.15%) reported earning between 25,001 and 50,000 INR, 5 families (38.46%) had incomes ranging from <25,000 INR, and the remaining families 2(15.38%) were earned above 50,001 INR.

Regarding the marital status, 8 (61.54%) were married, 3 (23.08%) were widow/divorced and 2(15.38%) were single. In duration of receiving hemodialysis, 5 (38.46%) were 7-9 months,4(30.77%) were 10-12 months,3(23.08%) were receiving less than 6 months and 1 (7.69%) were 13-24 months.

In control group 6 participants (46.15%) were aged between 45-54 years,5(38.46%) were 55 to 64 years, and 2 participants (15.38%) were above 60 years old. In terms of gender, 7 (53.85%) were female and 6 (46.15%) were male. Regarding educational status, 6 respondents (46.15%) were secondary education, 3(23.08%) were under graduate and 2 (15.38%) were primary education and postgraduate. Occupational status of patients 6(46.15%) were government employee,4(30.77%) were housewife,2(15.38%) were private employee and 1(7.69%) were farmer.

As for family monthly income, 6 (46.15%) reported earning between 25,001 and 50,000 INR, 4 families (30.77%) had incomes ranging from <25,000 INR, and the remaining families 3(23.08%) were earned above 50,001 INR.

Regarding the marital status, 9 (69.23%) were married, 2 (15.38%) were widow/divorced and single. In duration of receiving hemodialysis, 5 (38.46%) were 7-9 months,5(38.46%) were 10-12 months,3(23.08%) were receiving less than 6 months and 0(0.0%) were 13-24 months.

Table: 2 Comparison of Control group and Experiment group with QOL scores at different visits by Mann-Whitney U test

Visits	Control group			Experiment group			Z-value	P-value
	Mean	SD	Mean rank	Mean	SD	Mean rank		
1st visit	41.00	3.76	12.92	41.62	4.09	14.08	-0.3590	0.7196

2nd visit	41.00	3.76	7.85	53.31	6.50	19.15	-3.7436	0.0002 *
3rd visit	41.00	3.76	7.00	66.77	3.32	20.00	-4.3077	0.0001 *
4th visit	66.46	3.38	7.00	88.77	3.22	20.00	-4.3077	0.0001 *
5th visit	63.31	8.64	7.00	119.23	3.22	20.00	-4.3077	0.0001 *

*p<0.05

Table 2 revealed that Comparison of Control group and Experiment group with QOL scores at different visits, at 1st visit quality of life of hemodialysis patients in control group Mean 41.00 and SD 3.76 in experimental group 41.62 and SD 4.09. 2nd ,3rd visit,4th visit and 5th visit the quality of life of hemodialysis patients in experimental group p <0.05.it shows that physical health, psychological health and social relationship improves with the help of yoga therapy.

Table: III: Association between hemodialysis patients QOL in experiment group with selected demographic variables.

Demographic characteristics	Levels of QOL				Total	χ^2	p-value
	Below average	%	Above average	%			
Age groups							
45 to 54years	2	33.33	4	3.08	6	2.8060	0.2460
55 to 64years	2	40.00	3	2.31	5		
Above 65years	2	100.00	0	0.00	2		
Gender							
Male	3	50.00	3	2.31	6	0.0660	0.7970
Female	3	42.86	4	3.08	7		
Educational Status							
Primary Education	2	66.67	1	0.77	3	2.8060	0.4220
Secondary Education	2	40.00	3	2.31	5		
Under Graduate	2	66.67	1	0.77	3		

Post Graduate	0	0.00	2	1.54	2		
Occupation							
Private employee	2	100.00	0	0.00	2	4.9520	0.2920
Government Employee	2	33.33	4	3.08	6		
Farmer	0	0.00	1	0.77	1		
Housewife	2	66.67	1	0.77	3		
Retired	0	0.00	1	0.77	1		
Monthly Family Income (in Rs)							
<25000	2	40.00	3	2.31	5	0.1240	0.9400
25001 to 50000	3	50.00	3	2.31	6		
Above 50001	1	50.00	1	0.77	2		
Marital Status							
Single	0	0.00	2	1.54	2	2.2700	0.3210
Married	4	50.00	4	3.08	8		
Widow / Divorced	2	66.67	1	0.77	3		
Duration of receiving hemodialysis							
<=6 months	1	33.33	2	1.54	3	2.4710	0.4810
7-9 months	3	60.00	2	1.54	5		
10-12 months	1	25.00	3	2.31	4		
13-24 months	1	100.00	0	0.00	1		
Total	6	46.15	7	5.38	13		

CI, confidence interval; S-Significant, NS-Non-Significant

Above table 3 revealed that socio-demographic variables age, gender, educational status, occupation, family monthly income, marital status and Duration of receiving hemodialysis were no statistically significant relationship with quality of ;life of hemodialysis patients'P<0.05

Discussion:

Other studies have also shown the same results. Yoga and meditation are essential components for improving quality of life (QoL), which has a major impact on a variety of well-being factors. The purpose of the study was to determine how yoga and meditation affected the quality of life of haemodialysis patients. At Muljibhai Patel Urology Hospital in Nadiad, 100 individuals took part in an experimental study design with a single group pretest-posttest. On the first day, pre-tests were administered. A 12-week yoga and meditation program was then followed by a post-test. SPSS-20 software was used for data analysis, and both descriptive and inferential statistics were used. Following the intervention, yoga and meditation successfully showed improvements in QoL in every dimension ($p < 0.001$). These findings highlight how implementing these approaches into haemodialysis therapy improves quality of life[5].

Conducted study aimed to investigate the effects of a four-week chair yoga intervention on psychological and physiological outcomes in a sample of 31 chronic haemodialysis patients and assess the viability of conducting a chair yoga study. At the end of the trial, the chair yoga group's diastolic blood pressure and depression and anxiety scores were considerably lower than those of the usual care group. This study illustrated how challenging it is to find volunteers for yoga research. To further validate findings, larger sample numbers and longer time periods should be used in future research. Additionally, more research must be done on programs that encourage this demographic to engage in comparable low-intensity activities [6].

Conclusion:

One's general quality of life is enhanced by yoga. After three months of yoga, the interventional group's physical and mental well-being significantly outperformed that of the control group. It took a little longer (three months) to improve social interaction and the environmental domain, but yoga intervention improved physical and psychological well-being more quickly (shortly after one month of yoga intervention). The patients in the interventional group saw a significantly higher mean change in all aspects of quality of life after three months when compared to the control group. In a brief period of time, yoga helped a sad person's quality of life in almost every area. Since yoga heals the body, it must be marketed as an alternative therapy in conjunction with medication for positive, immediate outcomes.

Data availability

The corresponding author may give the data analyzed and utilized in this study upon request.

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Conflicts of Interest:

There is no conflict of interest related to the publishing of this research report

Author contribution

All authors contributed to the work described, whether it was in the concept, study design, execution, data collection, analysis and interpretation. All contributed to the articles drafting, revision, approved the final version to be published: agreed upon the journal to which the article was submitted and acknowledge that you will be held responsible for all facets of the work.

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