A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF GROUP THERAPY ON PSYCHOLOGICAL WELLBEING AMONG PATIENTS UNDERGOING HEMODIALYSIS IN SELECTED HOSPITAL, COIMBATORE

ABSTRACT

BACKGROUND

Chronic Kidney Disease (CKD) is defined as kidney damage or an estimated glomerular filtration rate (eGFR) of less than 60 ml/min/1.73 m² for more than three months. It is a progressive condition that gradually reduces kidney function and may lead to end-stage renal disease, requiring dialysis or kidney transplantation. According to the 2012 KDIGO classification, CKD is staged based on GFR and albuminuria levels.

The disease often develops without early symptoms, and many patients lose significant kidney function before diagnosis. Hemodialysis, the most common treatment, is time-consuming and requires frequent sessions and fluid restriction, which can negatively affect the physical, psychological, and social quality of life of patients and their families.

OBJECTIVES

1. To assess the level of psychological wellbeing among patients undergoing hemodialysis.
2. To assess the effectiveness of group therapy on psychological wellbeing among patients undergoing hemodialysis.
3. To associate the effectiveness of group therapy on psychological wellbeing among patients undergoing hemodialysis with their selected demographic variables.

METHODS

A quantitative research approach with a quasi-experimental pretest and posttest control group design was adopted. The study was conducted among 60 patients selected through purposive sampling technique from a selected hospital in Coimbatore.

Data were collected using a modified interview questionnaire. Group therapy was administered after the pretest, and the posttest was conducted on the 15th day. Data were analyzed using descriptive and inferential statistics. Paired and unpaired *t*-tests and chi-square tests were used.

RESULTS

The mean pretest psychological wellbeing score was 6.2, whereas the mean posttest score was 24.5. The mean difference was 29. The calculated *t*-test value was 31.66, which was statistically significant at $p < 0.05$.

No significant association was found with selected demographic variables.

CONCLUSION

Group therapy is very effective in increasing the level of psychological wellbeing among patients undergoing hemodialysis.

KEYWORDS

Group therapy, psychological wellbeing, patients undergoing hemodialysis.

INTRODUCTION

Chronic Kidney Disease (CKD) is characterized by the presence of kidney damage or an estimated glomerular filtration rate (eGFR) of less than 60 ml/min/1.73 m^2, persisting for three months or more, irrespective of the cause. CKD is a progressive condition that leads to a gradual loss of kidney function, ultimately resulting in the need for renal replacement therapy, such as dialysis or kidney transplantation. Kidney damage may be indicated by pathological abnormalities detected through imaging studies or renal biopsy, abnormalities in urinary sediment, or increased urinary albumin excretion rates.

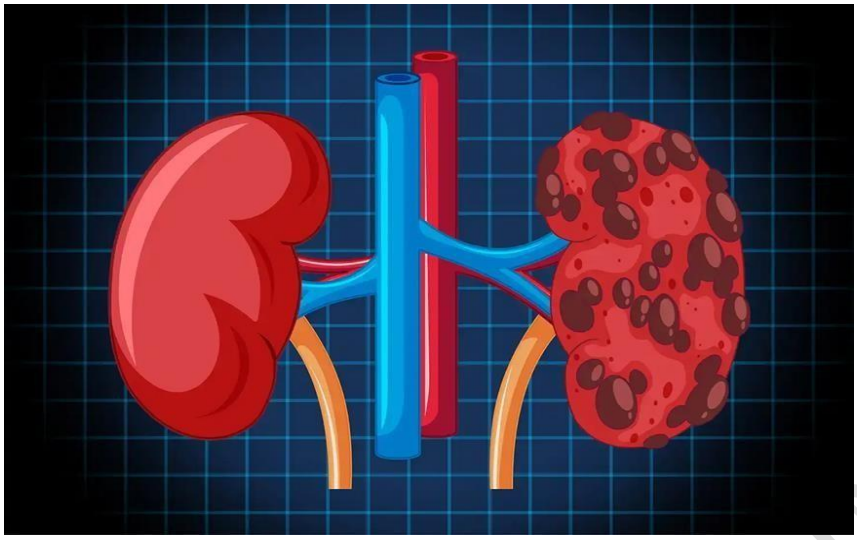
The 2012 Kidney Disease: Improving Global Outcomes (KDIGO) classification recommends specifying the cause of CKD and categorizes the condition into stages based on glomerular filtration rate. Additionally, CKD is further classified based on three levels of albuminuria. Each stage is subcategorized according to the urinary albumin-to-creatinine ratio measured in an early morning "spot" urine sample.

Chronic kidney disease is recognized as a major non-communicable disease affecting millions of people worldwide, including a significant number of patients in Coimbatore each year. It is often referred to as a "silent disease" because it typically progresses without early warning signs. In many cases, individuals may lose up to 90% of their kidney function before symptoms become apparent, eventually progressing to end-stage renal disease. At this stage, patients require artificial filtration or kidney transplantation for survival.

There are two main types of artificial filtration: peritoneal dialysis and hemodialysis. Hemodialysis is the most commonly used treatment modality worldwide. It involves connecting the patient to a machine that performs the function of the kidneys by filtering waste products and excess fluids from the blood. However, this treatment is often inconvenient, as it is time-consuming, usually lasting several hours per session, and must be performed at least three times a week. Additionally, patients are required to adhere to strict fluid and dietary restrictions.

The lives of patients undergoing hemodialysis, as well as their caregivers, are significantly affected—not only due to the chronic nature of the disease but also because of the demanding treatment regimen. Studies have shown that the quality of life among hemodialysis patients is often poor, with serious physical, psychological, and social implications that impact both patients and their families.

Psychological wellbeing is a broad construct that encompasses emotional, mental, and social aspects of health. It reflects how individuals perceive their own wellbeing and their ability to function in daily life. In patients undergoing hemodialysis, psychological wellbeing plays a crucial role, as it directly influences health outcomes, including the risk of complications and even mortality.



MATERIALS AND METHODS

For the present study, a quantitative research approach with a quasi-experimental pretest and posttest control group design was adopted to assess the effectiveness of group therapy on psychological wellbeing among patients undergoing hemodialysis.

The study was conducted at Sree Abirami Hospital, Coimbatore. Formal permission was obtained from the hospital authorities prior to data collection. A total of 60 patients undergoing hemodialysis were selected using a purposive sampling technique based on the inclusion criteria.

Data were collected over a period of four weeks using a modified interview questionnaire. The tool consisted of two sections: demographic variables and questions related to hemodialysis and psychological wellbeing among patients undergoing hemodialysis. After obtaining informed consent from the participants, a pretest was conducted using the questionnaire. On the same day, group therapy was administered using flashcards as an intervention.

The posttest was conducted on the 15th day using the same questionnaire to assess the effectiveness of the intervention.

The collected data were analyzed using both descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used for descriptive analysis. Paired and unpaired *t*-tests were applied to determine the effectiveness of group therapy, and the chi-square test was used to find the association between pretest psychological wellbeing scores and selected demographic variables. A level of significance of $p < 0.05$ was considered statistically significant.

RESULTS

1.DEMOGRAPHICCHARACTERISTICS:

S.NO	DEMOGRAPHIC VARIABLES	EXPERIMENTAL GROUP	GROUP THERAPY

		N	%	N	%
1.	AGE a. 31-40years b. 41-50years c. 51-60years d. 61yearsabove	 1 8 16 5	 3.3% 26.7% 53.3% 16.7%	 0 5 16 9	 0% 16.7% 53.3% 30%
2.	GENDER a. Male b. female	 20 10	 66.7% 33.3%	 23 7	 76.7% 23.3%
3.	TYPEOF WORK a. Sedentarywork b. Moderatework c. Heavywork	 14 8 8	 46.6% 26.7% 26.7%	 8 10 12	 26.7% 33.3% 40%
4.	DIETARYPATTERN a. Vegetarian b. Non-vegetarian	 3 27	 10% 90%	 4 26	 13.3% 86.7%
5.	FAMILYH/ORENAL DISEASE a. Yes b. No	 11 19	 36.7% 63.3%	 8 22	 26.7% 73.3%

6.	**COMORBIDCONDITION**				
	a. Diabetesmellitus	**7**	**23.3%**	**6**	**20%**
	b. Hypertension	**13**	**43.4%**	**15**	**50%**
	c. Botha&b	**7**	**23.3%**	**8**	**26.7%**
	d. Thyroiddisease	**1**	**3.3%**	**0**	**0%**
	e. Others	**2**	**6.7%**	**1**	**3.3%**
7.	**PERSONALHABITS**				
	a. Smoking	**7**	**23.3%**	**8**	**26.7%**
	b. Consumptionof	**2**	**6.7%**	**4**	**13.3%**
	alcohol	**2**	**6.7%**	**3**	**10%**
	c. Botha&b	**0**	**0%**	**0**	**0%**
	d. Substanceabuse	**19**	**63.3%**	**15**	**50%**
	e. nil				
8.	**BODYMASSINDEX**				
	a. Underweight	**1**	**3.3%**	**6**	**20%**
	b. Moderateweight	**24**	**80%**	**16**	**53.3%**
	c. Overweight	**4**	**13.34%**	**8**	**26.7%**
	d. Obesity	**1**	**3.3%**	**0**	**0%**

Distribution of Patients Undergoing Hemodialysis According to Their Level of Psychological Wellbeing in Experimental and Control Groups.

LEVELS	**EXPERIMENTALGROUP**				**CONTROLGROUP**			
	PRETEST		**POSTTEST**		**PRETEST**		**POSTTEST**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
INADEQUATE	**28**	**93.3%**	**0**	**0%**	**26**	**86.7%**	**25**	**83.3%**
MODERATE	**2**	**6.7%**	**0**	**0%**	**4**	**13.3%**	**5**	**16.7%**
ADEQUATE	**0**	**0%**	**30**	**100%**	**0**	**0%**	**0**	**0%**

TABLE 2: Level of Psychological Wellbeing Among Patients Undergoing Hemodialysis in Experimental and Control Groups

Table 2 depicts the level of psychological wellbeing among patients undergoing hemodialysis in both the experimental and control groups.

In the experimental group, the findings revealed that during the pretest, 28 (93.3%) participants had inadequate psychological wellbeing, 2 (6.7%) had a moderate level, and none of the participants (0%) had adequate

psychological wellbeing. In contrast, during the posttest, none of the participants (0%) had inadequate or moderate levels, while all 30 (100%) participants reported an adequate level of psychological wellbeing.

In the control group, during the pretest, 26 (86.7%) participants had inadequate psychological wellbeing and 4 (13.3%) had a moderate level, with none (0%) having adequate wellbeing. During the posttest, the majority of participants remained in the inadequate and moderate categories, and no significant improvement was observed in their level of psychological wellbeing

In the control group, during the pretest, 26 (86.7%) participants had inadequate psychological wellbeing, 4 (13.3%) had a moderate level, and none (0%) had adequate psychological wellbeing. In the posttest, 25 (83.3%) participants had inadequate psychological wellbeing, 5 (16.7%) had a moderate level, and none (0%) had adequate psychological wellbeing.

3. EFFECTIVENESS OF GROUP THERAPY ON PSYCHOLOGICAL WELLBEING AMONG PATIENTS UNDERGOING HEMODIALYSIS IN THE EXPERIMENTAL GROUP

a. Paired't'testvalueofpreandPost-testlevelofpsychologicalwellbeingamong experimental group.

LEVEL	TEST	MEAN	SD	PAIRED‘t’ VALUE	df
EXPERIMENTAL GROUP	PRE TEST	6.2	2.23	31.66	29
	POST TEST	24.5	1.96		

N=60

Table 3(a): Paired *t*-Test Analysis of Pretest and Posttest Psychological Wellbeing Scores in the Experimental Group

Table 3(a) shows the paired *t*-test analysis used to determine the effectiveness of group therapy on psychological wellbeing among patients in the experimental group. The calculated *t* value (31.66) was significantly higher than the table value (2.05) at $p < 0.05$.

This indicates that there was a statistically significant improvement in the level of psychological wellbeing among patients undergoing hemodialysis after the administration of group therapy. Therefore, the research hypothesis (H_1) was accepted, confirming that group therapy was effective in improving psychological wellbeing.

4. Effectiveness of group therapy on psychological wellbeing among patients undergo hemodialysis experimental and control group

a. Unpaired 't' test value of post-test to level of knowledge in experimental and control group.

LEVELS	TEST	MEAN	SD	UNPAIRED 't' TEST	df
EXPERIMENTAL GROUP	POST TEST	24.5	1.96	30.70	58
CONTROLGROUP	POST TEST	7	2.45		

N=60

TABLE 4(a): Unpaired *t*-Test Analysis of Psychological Wellbeing Between Experimental and Control Groups

Table 4(a) depicts the unpaired *t*-test analysis conducted to determine the effectiveness of group therapy on psychological wellbeing among patients in the experimental and control groups. The calculated unpaired *t* value (30.70) was significantly higher than the table value (2.05) at $p < 0.05$.

This result indicates that there was a statistically significant difference between the experimental and control groups, demonstrating that group therapy was effective in improving the level of psychological wellbeing among patients undergoing hemodialysis. Therefore, the research hypothesis (H_2) was accepted.

5. Association between the level of psychological wellbeing and their selected in demographic variables.

N=60

S.NO	VARIABLES	EXPERIMENTAL GROUP	CONTROL GROUP	df	TABLE VALUE
1.	AGE	0	0	6	12.59
2.	GENDER	0	0	2	5.99
3.	TYPEOF WORK	0	0	4	9.49
4.	DIETARY PATTERN	0	0	2	5.99
5.	FAMILY H/ORENAL DISEASE	0	0	2	5.99
6.	COMORBID CONDITION	0	0	8	15.51
7.	PERSONAL HABITS	0	0	8	15.51
8.	BMI	0	0	6	12.59

TABLE 5. Reveals that there was no Association with demographic variables and the level of psychological wellbeing in experimental and control group hence the hypothesis H3 was rejected.

DISCUSSION

The findings of the study revealed the effectiveness of group therapy on psychological wellbeing among patients undergoing hemodialysis. In the experimental group, the pre-test results showed that 28 (93.3%) samples had inadequate knowledge and 2 (6.7%) had moderate knowledge, while none had adequate knowledge. In the post-test, none had inadequate or moderate knowledge and all 30 (100%) samples reported adequate knowledge.

In the control group, during the pre-test 26 (86.7%) samples had inadequate knowledge and 4 (13.3%) had moderate knowledge, while none had adequate knowledge. In the post-test, 25 (83.3%) samples had inadequate knowledge and 5 (16.7%) had moderate knowledge, and none had adequate knowledge. The resultsalsoshowedthattheexperimentalgroupmeanscoreincreasedfrom6.2in the pre-test to 24.5 in the post-test with a mean difference of 17.8, whereas the controlgroupmeanscoreincreasedslightlyfrom6.3to7withameandifference

of 0.7. Chi-square analysis showed no association between demographic variables and the level of psychological wellbeing in both groups; therefore, hypothesis H3 was rejected.

The overall result of the study showed that group therapy was effective in improving psychological wellbeing among patients undergoing hemodialysis. The experimental group showed a significant improvement in knowledge and mean scores after the intervention, whereas the control group showed only minimal improvement. There was no significant association between psychological wellbeing and selected demographic variables. Therefore, the study concluded that group therapy is effective in enhancing psychological wellbeing among hemodialysis patients.

CONCLUSION

The present study assessed the effectiveness of group therapy on psychological wellbeingamongpatientsundergohemodialysis.Theresults revealedthatgroup therapy is very effective in increasing the level of knowledge at $p< 0.05$ level.
On the basis of the study,theinvestigatorconcludedthatgrouptherapyhasan importantroleinincreasingthelevelofpsychologicalwellbeing amongpatients undergo hemodialysis

REFERENCES

1. Videbeck,S.L.(2023).Psychiatric-Mental Health Nursing.9th ed. Wolters Kluwer.
2. Varcarolis,E.M.(2021).Essentials of Psychiatric Mental Health Nursing. 9th ed. Elsevier.
3. Townsend,M.C.,&Morgan,K.I.(2017).PsychiatricMentalHealth Nursing: Concepts of Care in Evidence-Based Practice. 9th ed. F. A. Davis.
4. Stuart,G.W.(2014).PrinciplesandPracticeofPsychiatricNursing. 10th ed. Elsevier.
5. Fortinash,K.M.,&Holoday-Worret,P.A.(2012).PsychiatricMental Health Nursing. 5th ed. Elsevier.
6. Kneisl,C.R.,&Trigoboff,E.(2012).ContemporaryPsychiatric-Mental Health Nursing. 3rd ed. Pearson.
7. Austin,W.,&Boyd,M.A.(2010).PsychiatricNursing: Contemporary Practice. 5th ed. Wolters Kluwer.
8. Mohr,W.K.(2006).Johnson'sPsychiatric-MentalHealthNursing. 6th ed. Lippincott Williams & Wilkins.
9. Hanrahan,N.P.,&Hartley,D.(2008).PsychiatricNursing.Jones&Bartlett.
10. www.clinicalevidence.com