ISSN(O):2582-693X
ISSN(P):3139-3314

Original Article

Effectiveness of a Planned Teaching Programme on Knowledge and Attitude Regarding Lifestyle Modification Among Patients with End-Stage Renal Disease Undergoing Haemodialysis

Mayank Parihar[1], Mohd Nadeem Ahmed[2], Nayeema Mushtaq[3], Nisha Yadav[4], Paridhi Yadav[5], Priyanka Singh[6], Krishna Kant Tyagi[7]

[1,2,3,4,5,6]Students, 7 Faculty (Guide) UPUMS Nursing College, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh, India

[7]Faculty (Guide) UPUMS Nursing College, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh, India

Corresponding Author:
Krishna Kant Tyagi, Faculty (Guide)UPUMS Nursing College,
Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh, India

E-mail:
tyagikk2018@gmail.com

GFNPSS-International Journal of Multidisciplinary Research is a journal of open access. In this journal, we allow all types of articles to be distributed freely and accessible under the terms of the creative common attribution- non-commercial-share. This allows the authors, readers and scholars and general public to read, use and to develop non-commercially work, as long as appropriate credit is given and the newly developed work are licensed with similar terms.

How to cite this article : Parihar M, Ahmed MN, Mushtaq N, Yadav N, Yadav P, Singh P, Tyagi KK. Effectiveness of a Planned Teaching Programme on Knowledge and Attitude Regarding Lifestyle Modification Among Patients with End-Stage Renal Disease Undergoing Haemodialysis. GFNPSS-IJMR 2026; 7:10: 3757-3760
Submitted: 03 October 2026: **Accepted:** 14 October 2026: **Published:** 31 October 2026

Abstract :

Background: End-stage renal disease (ESRD) is an irreversible condition in which kidney function declines to a level requiring dialysis or kidney transplantation for survival. Patients undergoing haemodialysis must follow appropriate lifestyle modifications, including dietary and fluid restrictions, medication adherence, regular physical activity, vascular-access care, and avoidance of smoking and alcohol. Adequate knowledge and a favourable attitude are essential for maintaining adherence and reducing complications.

Materials & Methods: A quantitative, pre-experimental, one-group pre-test-post-test study was conducted in the haemodialysis unit of Uttar Pradesh University of Medical Sciences, Saifai, Etawah. 50 adult patients with ESRD undergoing haemodialysis were selected using non-probability convenience sampling. Data were collected using a demographic questionnaire, a 30-item structured knowledge questionnaire, and a 14-item Likert-type attitude scale. After the pre-test, participants received a planned teaching programme on ESRD, haemodialysis, diet, fluid management, blood pressure and glucose control, exercise, weight management, smoking cessation, and related self-care. Post-test knowledge and attitude were subsequently assessed. Descriptive statistics, paired *t*-test, Pearson's correlation coefficient, and chi-square test were used for analysis.

Results: The mean knowledge score increased from 11.10 (SD = 3.94) in the pre-test to 23.00 (SD = 3.63) in the post-test. The reported *t*-value was 4.13, indicating a statistically significant improvement at the 0.05 level. The mean attitude score increased from 47.56 (SD = 4.61) to 55.00 (SD = 9.86), with a reported *t*-value of 1.75. Knowledge and attitude showed positive correlations in the pre-test ($r = 0.38$) and post-test ($r = 0.22$). Sex and family income were significantly associated with pre-test knowledge, while sex was significantly associated with pre-test attitude.

Conclusion: The planned teaching programme improved participants' knowledge and attitude regarding lifestyle modification. Nurse-led, structured education should therefore be incorporated into routine haemodialysis care. However, the findings should be interpreted cautiously because the study used convenience sampling, had no control group, and involved a relatively small sample.

Keywords: attitude, end-stage renal disease, haemodialysis, knowledge, lifestyle modification, nursing education, planned teaching programme

INTRODUCTION

End-stage renal disease represents the final and irreversible stage of chronic kidney disease. At this stage, kidney function is insufficient to maintain fluid, electrolyte, and metabolic balance, and patients require kidney replacement therapy in the form of haemodialysis, peritoneal dialysis, or kidney transplantation. Although haemodialysis removes metabolic waste and excess fluid, it does not completely replace all kidney functions and is not a cure for kidney failure. Patients must therefore combine regular dialysis with sustained self-care and lifestyle modification.

People undergoing haemodialysis commonly experience

https://doi.org/10.46376/ijmr/07.10.2026:3757-3760

fluid overload, electrolyte imbalance, anaemia, cardiovascular complications, fatigue, sleep disturbance, itching, muscle cramps, and psychological stress. Inadequate adherence to dietary restrictions, fluid allowance, medication, dialysis schedules, and vascular-access care may increase morbidity and hospitalisation. Lifestyle modification is consequently an integral part of ESRD management.

Important recommendations include following an individualised renal diet, restricting sodium and fluids as prescribed, monitoring weight and blood pressure, controlling blood glucose, engaging in suitable physical activity, adhering to medications, avoiding tobacco, limiting or avoiding alcohol as advised, and promptly reporting symptoms of infection or fluid overload. Dietary protein, potassium, phosphorus, sodium, and fluid requirements vary according to residual kidney function, dialysis adequacy, laboratory findings, nutritional status, and comorbidities. Such recommendations should be individualised by the nephrology team and renal dietitian rather than applied uniformly.

Educational interventions may help patients understand the reasons for these restrictions and develop a favourable attitude toward long-term self-management.

MATERIALS & METHODS

A quantitative pre-experimental design with one-group pre-test and post-test assessment was used. The study was conducted in the haemodialysis unit of Uttar Pradesh University of Medical Sciences, Saifai, Etawah. The study population consisted of patients diagnosed with ESRD and receiving haemodialysis during the data-collection period.

The sample comprised 50 patients, selected through non-probability convenience sampling. Patients were eligible if they were older than 18 years, diagnosed with ESRD, undergoing haemodialysis, available during data collection, willing to participate, and able to understand Hindi or English. Critically ill patients and those unable to participate in the assessment were excluded.

The data-collection instrument consisted of three sections.

Section A recorded demographic and clinical characteristics, including age, sex, religion, education, occupation, family income, marital status, type of family, dietary pattern, body build, duration of illness, personal habits, and associated illness.

Section B was a 30-item multiple-choice questionnaire measuring knowledge about the kidneys, ESRD, haemodialysis, diagnosis, treatment, diet, fluid restriction, exercise, relaxation, vascular-access care, and complications. Each correct response received one point, giving a possible score of 0-30.

Section C contained 14 positive and negative statements assessed using a five-point Likert scale. The reported maximum attitude score was 70. Negative statements were reverse-scored.

Data were analysed using frequency, percentage, mean, and standard deviation. A paired *t*-test was used to compare pre-test and post-test scores. Pearson's correlation coefficient was used to assess the relationship between knowledge and attitude, while the chi-square test was used to examine associations with demographic variables. Statistical significance was considered at $p < 0.05$.

RESULTS

Out of the 50 participants, 19 (38%) were older than 50 years, 17 (34%) were aged 41-50 years, and 14 (28%) were aged 21-40 years. Most participants were male (68%), married (90%), Hindu (98%), and from joint families (60%). Thirty-six per cent had graduate- or diploma-level education, while 44% were unemployed. Vegetarian diets were reported by 74% of participants.

Half of the participants had a moderate body build, and 52% had lived with the disease for 16-24 months. Hypertension was the most common associated illness, affecting 42% of the sample, while 24% had both diabetes and hypertension. Forty per cent reported none of the listed personal habits.

SECTION – II Description of Statistical Value of Pre-test and Post-test attitude Scores regarding lifestyle modifications Among Patients with ESRD.

Table 1. Mean, standard deviation and t" value of Pre-test and Post-test attitude Scores Regarding lifestyle modifications Among Patients with ESRD. **(n=50)**

S.No	Attitude	Mean	SD	't' value
1	Pre-test	47.56	4.61	1.75
2	Post-test	55	9.86	

Table shows that the mean score of attitudes on the pre-test was 47.56 and the post test score was 55. The calculated 't' value 1.75 at df {49} was greater than the table value at 0.05 level of significance.

SECTION –III Description of Statistical Value of Pre-test and Post-test knowledge Scores Regarding lifestyle modifications Among Patients with ESRD.

Table 2: Mean, standard deviation and t" value of Pre-test and Post-test knowledge Scores Regarding lifestyle modifications Among Patients with ESRD.

The mean pre-test knowledge score was 11.10 ± 3.94, which increased to 23.00 ± 3.63 after the teaching programme. The reported *t*-value of 4.13 indicated a significant improvement at the 0.05 level. This represents an absolute mean increase of 11.90 points on the 30-point knowledge scale.

It reveals that there was a significant difference between the pre-test and post-test knowledge scores

https://doi.org/10.46376/ijmr/07.10.2026:3757-3760

S.No	Knowledge	Mean	SD	't' value
1	Pre-test	11.1	3.94	4.13
2	Post-test	23	3.63	

SECTION -IV Correlation of pre test scores of the knowledge and attitude regarding life style modification among patients with ESRD.

Table.3: Mean, standard deviation and correlation of pre test scores of the knowledge and attitude regarding life style modification among patients with ESRD. **(n=50)**

S.No	Pretest	Mean	S.D	r
1	Knowledge	11.1	3.94	+0.38
2	Attitude	47.56	4.61	

Table 4 Mean, standard deviation and correlation of post test scores of the knowledge and attitude regarding life style modification among patients with ESRD. **(n=50)**

Sr.No	Post test	Mean	S.D	r
1	Knowledge	23	3.63	+0.22
2	Attitude	55	9.86	

SECTION – V Association of Demographic Variables with Pre test Scores of Knowledge Regarding Life Style Modifications Among Patients with ESRD.

The association of knowledge with demographic variables with pre test knowledge score on lifestyle modification among patients with chronic kidney disease. The obtained "χ^2" value of sex and income were 4.39 at 1[df] and 8.35 at 4 (df) significant at 0.05 level. It shows that there was an association between sex and income score with a knowledge score of the pre-test.

SECTION – VI Association of Demographic Variables with Pre test Scores of Attitude Regarding Life Style Modifications Among Patients with ESRD.

Table 6. Association of pre test scores of an Attitude regarding life style modifications among patients with chronic kidney disease with selected demographic variables.

The association of attitude with demographic variables by χ^2test.

The obtained χ^2 value of sex were 4.01 with df[1] significant at 0.05 level.it shows that there was association between sex score with attitude score of the pre test.

DISCUSSION

The marked rise in the knowledge score suggests that a structured educational intervention can improve patients' understanding of lifestyle modification and ESRD self-management. Before the intervention, participants' mean score represented approximately 37% of the maximum possible knowledge score. After the intervention, it increased to approximately 77%, indicating a substantial educational gain.

Attitude also improved after the programme, although the change was smaller and more variable than the improvement in knowledge. This is plausible because knowledge may change soon after teaching, whereas attitudes and health behaviours often require repeated reinforcement, family support, counselling, and follow-up. The larger post-test standard deviation for attitude also suggests that participants responded differently to the intervention.

The positive correlations between knowledge and attitude support the view that better understanding may contribute to a more favourable orientation toward lifestyle modification. Nevertheless, education alone may not ensure adherence. Financial limitations, food availability, treatment burden, family support, health literacy, dialysis-related fatigue, and coexisting illnesses can influence whether knowledge is translated into daily practice.

The findings have practical relevance for nursing care. Dialysis nurses can provide short, repeated teaching sessions during treatment; assess misconceptions; use locally understandable educational materials; involve caregivers; and reinforce warning signs that require medical attention. Individual counselling is particularly important because renal dietary and fluid prescriptions vary between patients. Patient education should complement, not replace, clinical advice from the nephrologist and renal dietitian.

CONCLUSION

The planned teaching programme was associated with meaningful improvements in knowledge and attitude regarding lifestyle modification among patients with ESRD undergoing haemodialysis. Incorporating structured and repeated education into routine dialysis nursing care may strengthen patients' ability to participate in self-management.

Future studies should use larger, randomly selected samples, a control or comparison group, clearly specified follow-up intervals, validated instruments, and behavioural or clinical

https://doi.org/10.46376/ijmr/07.10.2026:3757-3760

outcomes such as interdialytic weight gain, blood pressure, serum potassium, phosphorus, treatment adherence, and quality of life.

Conflict of interest: The authors declare no conflict of interest.

Funding: No external funding was reported.

Acknowledgement: The authors acknowledge the support of UPUMS Nursing College, the haemodialysis unit, the study guide, faculty members, and all participating patients.

FINANCIAL SUPPORT AND SPONSORSHIP: Nil

CONFLICTS OF INTERESTS: There is no conflict of interest

REFERENCES:

1. David W. Johnson, et.al, (2014). Chronic kidney disease and measurement of albuminuria or proteinuria: A position statement. The Medical Journals of Australia. 197(4): 224-225
2. Devi ES, Bhanumathi. (2016). patients undergoing haemodialysis. Nitte Nursing Journal Sep; 1(1):33-6.
3. Dr John Schollum (2014). Acute -0n-chronic kidney disease; prevention diagnosis, management and referral in primary care. Best practice journal 7(4),52.
4. G K Modi and V Jha (2016). The incidence of end stage renal disease: a population based study. Kidney International 70, 2131-2133. AsumnnUgurluYildiz. Mchmet Ali Kuree (2014). Life style education and counselling improved quality of life and renal function in patient with chronic kidney disease. Journal Management; 667-672
5. AsumnnUgurluYildiz. Mchmet Ali Kuree (2014). Life style education and counselling improved quality of life and renal function in patient with chronic kidney disease. Journal Management; 667-672.
6. Erick (2015). Study to assess the knowledge regarding risk factors and complications. www.pubmed.com.
7. Ilangovan, et.a|, (2015). Chronic disease is major health problem in India. Retrieved from www. kidney.organ.
8. Josef coresh, Elizabeth selvin, et al, (2017). Prevalence of chronic kidney disease in the United States. Retrieved from www.janm.com