

Effect of STM on life style modification among patients undergoing hemodialysis at tertiary care hospitals

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Abstract—background of the study: A quantitative research approach with a pre- experimental one -group pre-test post -test design find out the effect of structure teaching module on life style modification among conveniently selected 140 patients undergoing hemodialysis (one group 140 samples) at tertiary care hospitals, Maharashtra. To collect data on demographic variables & patients undergoing hemodialysis, a structured interview schedule was used among patients undergoing hemodialysis to assess the effect before and after interventions of STM. Objective: To assess the effect of STM on life style modification among patients undergoing hemodialysis at tertiary care hospitals Methodology: Study design and Setting: pre-experimental with one group pretest posttest design. A convenience sampling technique will be used to select shall be used to select the patients undergoing hemodialysis at tertiary care hospitals, Maharashtra. Results: From the finding, it was observed that the each 28.57% of patients undergoing haemodialysis in pre-test had poor and good level of knowledge score and each 21.43% of the patient's undergoing haemodialysis had average and very good level of knowledge score. Mean knowledge score in

pretest was 12.36 ± 6.48 and in and mean percentage of knowledge score was 41.21 ± 21.63 . In post- test 35.71% of patients undergoing haemodialysis had good level of knowledge score, 7.14% had very good and 57.14% of the patient's undergoing haemodialysis had excellent level of knowledge score. Minimum knowledge score in posttest was 14 and maximum knowledge score in was 30. Mean knowledge score in posttest was 22.35 ± 5.50 and in and mean percentage of knowledge score was 74.50 ± 18.36 . However, there is significant association ($p>0.05$) between knowledge score and age, gender, education, income, qualification and area of residence of patients undergoing hemodialysis. Findings of study revealed that the Effect of structure teaching module on life style modification among patients undergoing hemodialysis at tertiary care hospitals, Maharashtra.

Index Terms—patients undergoing hemodialysis, structure interview scheduled, structured interview module, tertiary care hospitals.

I. INTRODUCTION

Haemodialysis is a medical procedure that removes waste products and excess fluid from the blood when the kidneys are no longer functioning adequately. In addition to cleansing the blood, the therapy helps regulate blood pressure and maintain proper levels of essential electrolytes such as sodium, potassium, and calcium. Although hemodialysis can improve a patient's quality of life and extend survival, it does not cure kidney failure. During the procedure, blood is withdrawn from the body and passed through a machine containing a filter known as a dialyzer, often referred to as an artificial kidney. This device removes toxins and extra fluids from the blood. The cleaned blood is then returned to the patient's circulation. The dialysis solution used in the machine contains water and specific chemicals that help remove waste, salts, and excess fluid safely. To perform hemodialysis, a nurse or technician inserts two needles into the patient's vascular access, usually in the arm. Tubes connected to these needles carry blood to and from the dialysis machine. Some patients may learn to insert their own needles after training. A topical aesthetic cream or spray may be applied to reduce discomfort during needle insertion. Most individuals tolerate hemodialysis well; however, complications can occur. The most common issue is low blood pressure during treatment, which may lead to dizziness, shortness of breath, nausea, vomiting, or muscle cramps. Chronic kidney disease is defined as kidney damage or a

glomerular filtration rate (GFR) of less than 60 mL/min/1.73 m² for at least three months. Regardless of the underlying etiology, once the loss of nephrons and reduction in functional kidney mass reach a certain point, the remaining nephrons initiate an irreversible sclerosis process, leading to a progressive decrease in GFR.¹⁸

Treatment of chronic renal failure is divided into two stages: conservative management and renal replacement therapy. The most frequently given kidney replacement therapy is hemodialysis, followed by continuous ambulatory peritoneal dialysis.¹⁹⁻²⁰

Quality of life is an individual's perception of their position in life in the context of their culture, value system, and relationship to life goals, expectations, standards, and other related matters. Quality of life is an increasingly important factor in the assessment of the management of chronic kidney disease patients undergoing hemodialysis²¹⁻²²

Several studies have shown a decreased quality of life and increased depression in the hemodialysis

patient population. Poor quality of life itself is also reported to increase complications such as depression and malnutrition and even increase mortality. Several factors such as anemia, age, duration of hemodialysis, number of comorbid diseases, and number of medications are known to be factors related to the quality of life of hemodialysis patients²³

II. OBJECTIVE:

To assess the effect of STM on life style modification among patients undergoing hemodialysis at tertiary care hospitals.

III. METHODS

Study design and Setting: pre- experimental with one group pretest posttest design. A convenient sampling technique will be used to select 140 patients undergoing hemodialysis at tertiary care hospitals, Maharashtra.

IV. RESULTS

Table 1: Percentage wise distribution of patients according to their demographic characteristics.

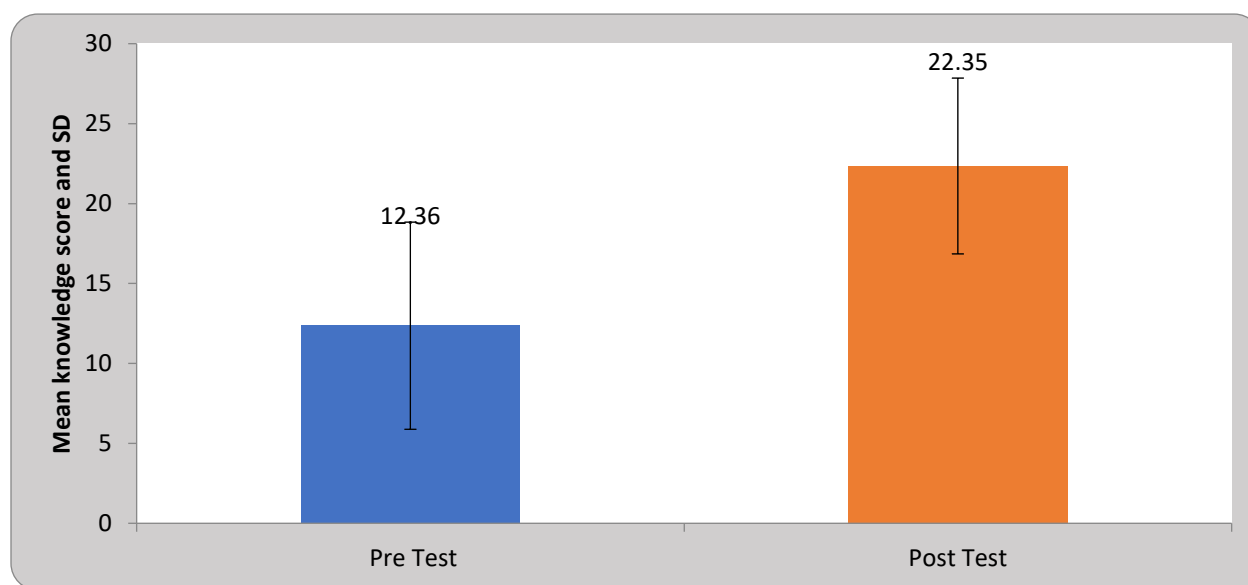
n=140

Demographic Variables	No of patients	Percentage
Age(yrs)		
21-30 yrs	30	21.4
31-40 yrs	40	28.6
41-50 yrs	40	28.6
≥51 yrs	30	21.4
Gender		
Female	70	50.0
Male	70	50.0
Educational Status		
Illiterate	20	14.3
Primary	20	14.3
Higher Secondary	30	21.4
Graduate	40	28.6
Postgraduate and above	30	21.4
Family Income (Rs)		
≤15000 Rs	50	35.7
15001-20000 Rs	40	28.6
20001-25000 Rs	20	14.3
≥25001 Rs	30	21.4

Occupation		
Employed	90	64.3
Unemployed	50	35.7
Area of Residence		
Urban	70	50.0
Rural	70	50.0

Table 4 : Significance of difference between knowledge score in pre and post test of Patients undergoing haemodialysis n=140

Test	Mean	SD	Mean Difference	t-value	p-value
Pre Test	12.36	6.48	9.98±7.12	16.57	0.0001 S _p <0.05
Post Test	22.35	5.50			



This table shows the comparison of pretest and post test knowledge scores of patients undergoing haemodialysis regarding life style modifications from selected hospitals of the city. Mean, standard deviation and mean difference values are compared and student's paired 't' test is applied at 5% level of significance. The tabulated value for n=140-1 i.e. 139 degrees of freedom was 1.96. The calculated 't' value i.e. 16.57 are much higher than the tabulated value at 5% level of significance for overall knowledge score of patients undergoing haemodialysis which is statistically acceptable level of significance. Hence it is statistically interpreted that the Structured Teaching Module (STM) on knowledge regarding life style modifications among patients undergoing haemodialysis from selected hospitals of the city was effective. Thus the H₁ is accepted.

V. DISCUSSION

The present study assessed the effectiveness of a Structured Teaching Module (STM) on knowledge regarding lifestyle modification among patients undergoing haemodialysis. The findings showed that the participants were equally distributed by gender and residence, while the largest proportion belonged to the 31–40-year age group (28.6%). Regarding education, 28.6% were graduates, and 35.7% had a monthly family income below ₹15,000. The pre-test findings indicated inadequate knowledge regarding lifestyle modification, with a mean knowledge score of 12.36 ± 6.48 (41.21%). Following the intervention, the mean knowledge score increased to 22.35 ± 5.50 (74.50%). In the post-test, 35.71% of participants had good knowledge, 7.14% had very good knowledge, and 57.14% had excellent knowledge. The paired *t* test

showed a statistically significant improvement in knowledge ($t = 16.57, p < 0.05$), demonstrating that the STM was effective in improving knowledge regarding lifestyle modification among patients undergoing haemodialysis. Therefore, the research hypothesis (H1) was accepted. The association analysis revealed that post-test knowledge was significantly associated with age ($\chi^2 = 14.43, p = 0.025$), educational status ($\chi^2 = 52.28, p < 0.001$), and monthly family income ($\chi^2 = 16.78, p = 0.010$). However, no significant association was found with gender ($\chi^2 = 0.00, p = 1.00$), occupation ($\chi^2 = 1.71, p = 0.42$), or area of residence ($\chi^2 = 0.00, p = 1.00$). These findings suggest that demographic factors such as age, education, and income may influence patients' knowledge of lifestyle modification, whereas gender, occupation, and residence did not have a significant effect. Overall, the study demonstrates that a Structured Teaching Module is an effective educational intervention for improving knowledge regarding lifestyle modification among patients undergoing haemodialysis. Regular and structured patient education may therefore be incorporated into haemodialysis care to promote better understanding and adherence to recommended lifestyle practices.

VI. CONCLUSION

An experimental approach was used to assess the knowledge of patients undergoing haemodialysis at tertiary care hospitals according to STM was prepared followed by preparation of blue print. The prepared tool was validation by various experts and reliability by Test re test methods was used to assess the reliability of tool. Further pilot was conducted among study conducted among 10% of sample by using validated tool among patients undergoing haemodialysis at in other than study setting. The result of hypothesis revealed that there is significant difference in knowledge score of pre-test and post-test knowledge among patients undergoing haemodialysis on life style modification was effective.

REFERENCES

[1] Kao, M.P., & Boen, J.R. (2020). Lifestyle modifications and dietary management in dialysis patients. *American Journal of Kidney Diseases*,

- 76(2), 121-131.
doi.org/10.1053/j.ajkd.2020.02.021
- [2] Jaques, D.A.; Vollenweider, P.; Bochud, M.; Ponte, B. Aging and hypertension in kidney function decline: A 10-year population-based study. *Front. Cardiovasc. Med.* 2022, 9, 1035313.
- [3] Chobanian A. V., Bakris G. L., Black H.R., et al. Seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure. *Hypertension*. 2003;42(6):1206–1252. doi: 10.1161/01.hyp.0000107251.49515.
- [4] Brown EA, Johansson L, Farrington K, Gallagher H, Senesky T, Gordon F, Da Silva-Gane M, Beckett N, Hickson M. Broadening Options for Long-term Dialysis in the Elderly (BOLDE): differences in quality of life on peritoneal dialysis compared to haemodialysis for older patients. *Nephrol Dial Transplant*. 2010 Nov;25(11):3755-63.
- [5] Kraus MA, Fluck RJ, Weinhandl ED, Kansal S, Copland M, Komenda P, Finkelstein FO. Intensive Hemodialysis and Health-Related Quality of Life. *Am J Kidney Dis*. 2016 Nov;68(5S1):S33-S42.
- [6] Bahadori M, Ghavidel F, Mohammadzadeh S, Ravangard R, the effects of an interventional program based on self-care model on health-related quality of life outcomes in hemodialysis patients. *Journal of Education Health Promotion*. 2014 Nov 29; 3:110