

Effectiveness of Self-Instruction Module on Knowledge Regarding the Quality of Life of End Stage Renal Disorder Patients among Staff Nurses at a Selected Hospital, Mandya

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ABSTRACT

Background: Health, as defined by World Health Organization, is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. Thus, in chronic diseases, the quality of life (QOL), which describes the patient health, is an essential scale for assessing the success of a treatment. Health-related QOL (HRQOL) is the subjective perception of the illness and its treatment on the physical, psychological, and social well-being. Patients with end-stage renal disease (ESRD) on hemodialysis (HD) experience the heavy burden of dialysis treatment through its physical dependence, mental influence, and the myriad symptoms of ESRD.

Objective: The study aims to assess the effectiveness of Self Instruction Module (SIM) on knowledge of clinical nurses regarding quality of life of end stage renal disorder patients at Adhichunchanagiri Hospital and Research Centre, Mandya, Karnataka.

Materials and Methods: Quantitative research approach and a pre-experimental one group pre-test post-test research design were used to accomplish the stated objectives. The investigator selected a sample of 60 nurses who were working in Adhichunchanagiri Hospital. The data were collected by using a self administered structured knowledge questionnaire. Planned teaching was given with appropriate A-V aid followed by pretest.

Result: Inferential and descriptive statistical analysis was performed by using SPSS-IBM 20. Results were calculated by using p value < 0.05. The results revealed that, in pretest 70% of the nurses had inadequate knowledge where as in posttest 68.3% of the nurses had gained adequate knowledge and the improvement was statistically significant at P<0.05.

Conclusion: The study result shows that after intervention knowledge regarding quality of life of end stage renal disorder patients among nurses were improved significantly.

Key words: Effectiveness, self instruction module, quality of life, knowledge of staff nurses and end stage renal disorder.

I INTRODUCTION

“Train the mind to see the good in everything. Positivity is a choice. The happiness of one’s life depends on the quality of the thoughts”

-Unknown

Chronic diseases have become a major public health problem and the leading cause of morbidity and mortality¹. Global status report on non-communicable diseases (2010) stated that 80% of chronic disease deaths worldwide occur in low- and middle-income countries². End- stage renal disease (ESRD) is one among the chronic diseases which possess great threat globally and increased burden in the healthcare system

and leads to increased morbidity and mortality and decreased the quality of life (QOL)³. According to the World Health Organization, Global Burden of Disease project, diseases of the kidney and urinary tract contribute to global burden with approximately 8,50,000 deaths every year and 11,50,10,107 disability-adjusted life years. Chronic kidney disease (CKD) is the 12th leading cause of death and 17th cause of disability. The global increase in CKD is being driven by the global increase in of diabetes mellitus, hypertension, obesity, and aging⁴. CKD is associated with increased incidences of cardiovascular mortality and loss of disability-adjusted QOL years⁵. CKD in India cannot be assessed accurately. The approximate prevalence of CKD is 800 pmp and incidence of ESRD is 150–200 pmp [1]. ESRD is the final stage of CKD in which the kidneys no longer function well enough to meet the needs of daily life. During this stage, renal replacement therapy is required to stay live, and hemodialysis (HD) is considered as the most widely used therapy and playing an essential role in increasing patients' lifetime. The QOL of HD patients was found to be considerably impaired when compared to that of healthy individuals of the general population as well as of renal transplant patients⁶.

QOL is an overall assessment of a person's well-being, which may include physical, emotional, and social dimensions, as well as stress level, sexual function, and self-perceived health status. End-stage renal failure is a chronic disease that exerts a great negative impact on patients' health-related QOL mainly due to the accompanied impairment or to the imposed limitations in almost all domains of their daily lives. Despite remarkable advances in the treatment of HD, the patients encounter certain physical, psychological, economic, and social problems which affect their QOL^{5,6}.

HD consist a complex procedure for patients that require frequent hospital or dialysis centers visits, mainly 3 times a week, thus implying substantial changes in

the normal way of patients' living. 92% of HD patients may endure a high symptom burden and may experience troubling symptoms such as fatigue, decreased appetite, trouble concentrating, swelling in their feet and hands, and muscle cramps, and, all of which cause daily distress and negatively affects their QOL⁷. HD is a time consuming, and costly treatment and it needs more restrictions for diet and fluid, and long run dialysis causes a loss of freedom, reliance on caregiver, disturbance of marriage, family, social live, and reduction or lack of income. All these factors impair QOL^{6,8}.

With this background, the researcher interested to assess the QOL among ESRD patients who have undergone HD with respect to their all domains including physical health (PH), mental health, kidney disease problem, and patient satisfaction among the clinical nurses.

Statement of the Problem

A study to assess the effectiveness of self instruction module on knowledge of clinical nurses regarding quality of life of end stage renal disorder patients at Adhichunchanagiri Hospital and Research Centre, Mandya, Karnataka.

Objectives

1. To assess the knowledge of clinical nurses regarding quality of life of end stage renal disorder patients.
2. To assess the effectiveness of self instruction module on knowledge of clinical nurses regarding quality of life of end stage renal disorder patients.
3. To find out the association between the pre-test knowledge scores of clinical nurses with selected demographic variables.

Hypotheses

H₁: There may be significant improvement in mean post-test knowledge score compared to mean pre-test knowledge score of clinical nurses regarding quality of life of end stage renal disorder patients.

H₂: There may be significant association between knowledge of clinical nurses with selected demographic variables.

II METHODOLOGY

A pre-experimental one group pretest-posttest was used to accomplish the stated objectives. The investigator selected a sample of 60 clinical nurses who met the inclusion criteria using a convenient sampling technique. The research tool was developed after doing extensive literature review. The primary and secondary sources of literature were reviewed to develop an appropriate tool. Experts from Nephrology, Urology, Psychiatric, Dialysis centre and nursing provided their opinion and valuable suggestions which were incorporated to develop the tool. The tool consisted of socio demographic characteristics and structured knowledge questionnaire. Structured knowledge questionnaire consisted of 40 items on knowledge regarding risk of unplanned extubation of patients with mechanical ventilation. Component-1: Consists of 19 items (50%) introduction to ESRD, dialysis. Component-2: Consists of 12 items (31.57%) factors affecting QOL of ESRD patients. Component-3: consists of 9 items (23.68%) nursing management of ESRD patients. The total knowledge score was interpreted as score of < 50% - inadequate, 51% - 75% - moderately adequate and > 76% - adequate. SIM was developed by referring the books and journals. It contains information regarding causes, risk factors, signs and symptoms, treatment of QOL of ESRD patients.

Inclusion criteria:

1. Clinical nurses who were willing and present at the time of data collection

Data collection procedure: Data collection procedure includes pretest, SIM and post test. The data were collected by self administered structured knowledge questionnaire during these phases of study. After obtaining the formal permission from Administrative Medical Officer and Nursing Director of Adhichunchanagiri Hospital and

Research Center, the researcher approached Nursing Superintendent and the 60 clinical nurses were selected by using purposive sampling technique who met the inclusion criteria. The nurses were informed about the day and duration of pre-test. The day before pre-test, the researcher remained all the staff nurses through Nursing Director and ward in charges. The nurses were informed to gather at Seminar Hall in second floor in Adhichunchanagiri Hospital and Research Center, Mandya. The need for the study and the objectives were explained to the staff nurses. Anonymity and confidentiality was assured and written informed consent was obtained from the samples before conducting the pre-test. The investigator informed all the samples to answer all the questions given in the questionnaire and also assured that doubts in knowledge questionnaire will be clarified by providing SIM. The investigator collected data from 60 nurses that took 40-45 minutes for each nurse to complete the structured knowledge questionnaire.

Ethical consideration: Prior to the data collection, participants were informed about the study and written consent was obtained from each participant. Institutional human ethical committee clearance and permission was obtained to conduct the study.

Implementation of SIM: After pre-test, the SIM was distributed for 60 samples which was printed in English. The seating arrangements were made comfortably so that all the nurses can view the investigator while providing any instruction. Doubts raised from SIM were cleared then and there. All the staff nurses cooperated well and participated actively. They came forward with their queries about quality of life of end stage renal disorder patients. They also showed a positive attitude in group discussion. Post-test was administered on 8th day after PTP by using the same self-administered knowledge questionnaires on quality of life of end stage renal disorder patients. All the participants were cooperated well with the investigator in both pre-test and post-test sessions. The

data collection process was terminated by thanking the subjects for their cooperation.

III RESULTS STATISTICAL ANALYSIS

Statistics were performed by using SPSS-IBM 20. Results were calculated by using P

value <0.05. Chi-square was used to associate the knowledge and practice scores with selected demographic variables. Frequency and percentage distribution was used to analyze the demographic variables. Paired 't' test was used to find out the effectiveness of SIM.

Table 1: Frequency Distribution of Demographic Characteristics N = 60

Sl.No	Demographic Characteristics	Frequency (No.)	Percentage (%)
Age in Years	30 and above 30	8	13.33
	25 - 29	32	53.33
	Below 25	20	33.33
Gender	Male	14	23.33
	Female	46	76.67
Religion	Hindu	44	73.33
	Muslim	1	1.67
	Christian	15	25
Marital status	Married	26	43.33
	Single	34	56.67
Years of Experience	1 - 4	36	60
	5 - 9	16	27
	10 - 15	8	13
Educational qualification	GNM	47	78.3
	B.sc nursing	7	11.7
	Post B.sc nursing	6	10
Type of family	Nuclear family	31	51.6
	Joint family	29	48.4
Monthly family income	Rs. 10,000- 20,000	12	20
	Rs. 20,001 - 30,000	20	33.4
	Rs. 30,001 - 40,000	16	26.6
	Above Rs. 40,001	12	20
Place of residence	Urban	35	58.3
	Rural	25	41.6

Table 1 depicts majority of respondents 47(78.3%) were GNM graduates and most of them were from 35 (58.3%) residing in urban.

Table 2: Comparison of Knowledge of Participants in Pretest and Posttest N = 60

Sl. No	Level of Knowledge	Pretest		Posttest	
		Frequency(no.)	Percentage (%)	Frequency(no.)	Percentage (%)
1	Inadequate (<50%)	42	70	0	-
2	Moderately adequate (51%-75%)	18	30	19	31.67
3	Adequate >75%	0	-	41	68.33

Table 2 shows that 42 (70%) of the participants had inadequate knowledge in pretest with the mean of 12.03. In posttest, 41 (68.33%) of the participants had adequate knowledge and 19 (31.67%) of the participants had moderately adequate knowledge and the mean was 23.2. Paired 't' value (24.9) showed that STP was very effective to improve the knowledge level of the participants and the improvement was found to be significant (p<0.005).

Table 3: Comparison of Mean, Standard deviation Score of Knowledge Level of Participants in Pretest and Posttest N = 50

Test	Mean	SD	Paired 't' value	P value
Pretest	12.03	2.604	24.9	<0.005*
posttest	23.20	2.57		

* Significant at P <0.005

Table 3 shows that posttest mean (21.7) is higher compared to pretest mean of 12.03. The paired 't' value (24.9) showed that STP was very effective to improve the knowledge level of the participants and the improvement was statistically found to be significant (p<0.005).

Table 4: Aspect wise Knowledge scores of Respondents in Pre and Post tests

Aspect wise	Pre test		Post test		t value	DF	P value Inference
	Mean	SD	Mean	SD			
Introduction to ESRD and dialysis	6.07	1.793	11.27	1.793	16.3	59	P<0.005*
Factors affecting QOL of ESRD patients	2.67	1.036	5.43	1.170	13.6	59	P<0.005*
Nursing management of ESRD patients	3.30	1.280	6.50	1.066	16.2	59	P<0.005*

* Significant at P <0.005

Table 5: Association with the level of knowledge of patients and their selected demographic variables

Sl. No	Demographic Characteristics	Frequency (No.)	Level of Knowledge		Chi Square
			Moderately Adequate	Inadequate	
Age in Years	30 and above 30	8	5 (62.5%)	3 (37.5%)	0.354 (NS) P= 0.838
	25 - 29	32	24 (72.7%)	9(27.3%)	
	Below 25	20	13(68.4%)	6 (31.6%)	
Gender	Male	14	11(78.6%)	3(21.4%)	0.217 (NS) P= 0.641
	Female	46	31(67.4%)	15 (32.6%)	
Religion	Hindu	44	28(63.4%)	16 (36.4%)	3.261 (NS) P= 0.196
	Muslim	1	1 (100%)	-	
	Christian	15	13(86.7%)	2 (13.3%)	
Marital status	Married	26	16(61.4%)	10 (38.6%)	1.564 (NS) P= 0.211
	Single	34	26(61.5%)	8 (23.5%)	
Years of Experience	1 - 4	36	30(83.3%)	6 (16.6%)	1.32(NS) P= 0.838
	5 - 9	16	10(62.5%)	6 (37.5%)	
	10 - 15	8	2(25%)	6 (75%)	
Educational qualification	GNM	47	31(67.4%)	15 (32.6%)	3.261 (NS) P= 0.196
	B.sc nursing	7	4 (57.1%)	3(42.8%)	
	Post B.sc nursing	6	3(50%)	3(50%)	

Among the demographic variables analyzed in this study chi square value (χ^2) and P value showed that except for the clinical experience there was no association found between mean pre-test score and the demographic characteristics such as age in years, gender, religion, marital status, years of experience and educational qualification. The statistical value supported the research hypothesis that the mean posttest knowledge of clinical nurses regarding quality of life of end stage renal disorder patients will be significantly higher than the mean pretest knowledge score of nurses who had SIM. Thus it shows that SIM was effective in improving the nurses' knowledge. This type of educational programs helps the nurses more knowledgeable and skilled in assessing patients' needs, providing quick and efficient care, evaluating the results of an intervention, supporting and teaching the patient and their family.

IV DISCUSSION

Description of demographic variables of patients undergoing cataract surgery

The demographic variables of the nurses included in this study were age, educational qualification, years of experience, marital status, monthly family income, type of family and place of residence.

The first objective was to assess the pre and post-test knowledge of clinical nurses regarding quality of life of end stage renal disorder patients.

From table 2 the study findings revealed that 42 (70%) of the participants had inadequate knowledge in pretest. It indicated that the nurses need to be educated and updated to take care of a patient with ESRD undergoing dialysis. After providing SIM, 41 (68.33%) of the nurses had adequate knowledge and 19 (31.67%) of them had moderately adequate knowledge and the improvement was statistically significant at $P < 0.005$.

The second objective was to assess the effectiveness of self instruction module among clinical nurses regarding quality of life of end stage renal disorder patients.

In pretest the mean knowledge score obtained by the participants was 12.03 with SD of 2.6, whereas in post test the knowledge was improved to 23.2 with the SD of 2.57 which was statistically significant at $P < 0.005$.

The third objective was to find out the association between the pre-test knowledge scores of clinical nurses with selected demographic variables.

In this study significant association was found between clinical experience and knowledge of clinical nurses.

The present study findings confirm that there was a considerable improvement of knowledge of staff nurses regarding quality of life of end stage renal disorder patients after providing SIM. In post-test 68% of staff nurses had scored up to 75% and 32% of them had scored above 50%. The present

study findings are supported by a similar study was conducted to evaluate the effectiveness of structured teaching programme on knowledge regarding quality of life among hemodialysis patients in Ahmed Gasim Kidney Association Centre, Khartoum State, Sudan revealed that, the post test knowledge score was 86.3% compared to pre test score of 48.6%²⁸.

V LIMITATION OF THE STUDY

- The study is limited to staff nurses of Adhichunchanagiri Hospital and Research Center, Mandya.
- The study did not use control group.
- Only single domain i.e., knowledge was assessed in the present study.
- The sample size for the study was limited to 60 staff nurses. Hence the results of the study cannot be generalized.

VI RECOMMENDATIONS

Based on the present study findings it is recommended that;

- On the basis of findings of the present study the following recommendations have been made.
- A replication of present study can be conducted with a large sample.
- A similar study can be conducted in different settings with a control group and randomization.
- A comparative study can be conducted between nurses working in government and private hospital settings.
- The same study can be conducted on other domains such as attitude and practice.
- A follow-up study of planned teaching programme can be carried out to find the effectiveness in terms of retention of knowledge.
- A similar study can be conducted among nurses and other health care personnel.
- The same study can be conducted as comparative study between patients in different departments.

VII CONCLUSION

The interventional education program improved the quality of life after its implementation. Specifically, the results revealed that there was a significant improvement in all domain of quality of life namely; health and functioning, social and economic, psychological/ spiritual and family domain. Therefore, the interventional education program should be adapted by hemodialysis units in the country in order to ensure that patients receiving hemodialysis are knowledgeable about their disease and its management, as well as to ensure high levels of quality of life among these patients.

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VIII REFERENCES

1. Agarwal SK, Srivastava RK. Chronic kidney disease in India: Challenges and solutions. *Nephron Clin Pract* 2009;111:c197-203.
2. Khan IA, Nasiruddin M, Haque SF, Khan RA. A randomized clinical trial to evaluate the efficacy and safety of α -keto amino acids in stage 3 and 4 of chronic kidney disease. *Asian J Pharm Clin Res* 2014;7:21-4.
3. Schieppati A, Remuzzi G. Chronic renal diseases as a public health problem: Epidemiology, social, and economic implications. *Kidney Int Suppl* 2005;68:S7-10.
4. Raines N, González M, Wyatt C, Kurzrok M, Pool C, Lemma T, *et al.* Risk factors for reduced glomerular filtration rate in a Nicaraguan community affected by Mesoamerican nephropathy. *MEDICC Rev* 2014;16:16-22.
5. Sathvik BS, Parthasarathi G, Narahari MG, Gurudev KC. An assessment of the quality of life in hemodialysis patients using the WHOQOL- BREF questionnaire. *Indian J Nephrol* 2008;18:141-9.
6. G United States Renal Data System. United States Renal Data System 2012 Annual Data Report: Atlas of Chronic Kidney Disease

- and End- Stage Renal Disease in the United States. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2012. Available from: https://www.usrds.org/2012/pdf/v1_00intro_12.pdf.
7. Mollaoglu M. Perceived social support anxiety and self-care among patients receiving haemodialysis. *Dial Transplant* 2006;35:144-55.
 8. Shimoyama S, Hirakawa O, Yahiro K, Mizumachi T, Schreiner A, Kakuma T, et al. Health-related quality of life and caregiver burden among peritoneal dialysis patients and their family caregivers in Japan. *Perit Dial Int* 2003;23 Suppl 2:S200-5.
 9. Devins GM, Mandin H, Hons RB, Burgess ED, Klassen J, Taub K, et al. Illness intrusiveness and quality of life in end-stage renal disease: Comparison and stability across treatment modalities. *Health Psychol* 1990;9:117-42.
 10. Fukuhara S, Yamazaki S, Hayashino Y, Green J. Measuring health-related quality of life in patients with end-stage renal disease: Why and how. *Nat Clin Pract Nephrol* 2007;3:352-3.
 11. Wan EY, Chen JY, Choi EP, Wong CK, Chan AK, Chan KH, et al. Patterns of health-related quality of life and associated factors in Chinese patients undergoing haemodialysis. *Health Qual Life Outcomes* 2015;13:108.
 12. Baby B, Antony CL, Wilson S, Xavier T, Tamilselvan T. Evaluation of impact of pharmaceutical care on improving knowledge and medication adherence in CKD Patients. *Int J Pharm Pharm Sci* 2017;9:63-6.

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