Virtual based education program on quality of life among the hemodialysis patients.

Mr. Swapnil Rahane.[1]

[1]Assistant Professor, Medical Surgical Nursing department, Sumandeep Nursing College, Sumandeep Vidyapeeth Deemed to be University, Piparia, Vadodara- 391760 (India).

***Corresponding Author**:

Mr. Swapnil Rahane.

Assistant Professor, Medical Surgical Nursing department, Sumandeep Nursing College, Sumandeep Vidyapeeth Deemed to be university, Piparia, Vadodara-391760 (India).

Mob No: 9922469635, **Mail ID**: swapniilvitthal93@gmail.com

Abstract:

Background: chronic kidney disease with dialysis treatment is affect a boundless undesirable influence on patients' health-related quality of life mostly due to the accompanied diminishing or to the imposed limitations in almost all spheres of their daily life.[1] Hemodialysis treatment is complex and one way or another hurtful procedure for patients that requires regular hospital or dialysis centres visits, mainly three times a week, thus implying significant fluctuations in the normal way of patients' living. [2] Assessment of knowledge and practice in relation to health-related quality of life of dialysis patient is important part and predictive indicator of the outcome of the chronic kidney disease with dialysis patient as well as a valuable intervention for patient to improve health-related quality.[3]**Aim** : to assess the impact Virtual based education programon knowledge and practice of hemodialysis patients in relation to selected components of HRQoL. **Material and Method**: A quasi experimental approach, one group pre-test, post-test design study was conducted to assess the impact Virtual based education programon knowledge and practice of hemodialysis patients in relation to selected components of HRQoL. One hundred and ten adult's maintenance hemodialysis (MHD) patientswho they are fulfilling the inclusion criteria, selected through convenience sampling technique. conceptual framework was used in this study based on Orem's theory.[4] Twenty items self-Structured questionnaire was used to assessknowledge and practice in relation to selected components of HRQoL. The reliability was determined by test- retest method administering. Reliability coefficient calculated r=0.88 which is significant. Pertest was conducted after written and verbal consent: followed by health promotion activity on quality of life among maintenance hemodialysis patients. Post-test was done after 21 days of implementation of health promotion activity though the

structured interview schedule. Analysis and interpretation of data were done by using descriptive and inferential statistics. **Result**: The obtained data revealed that, this study majority of participants were 60.91% male patients and maximum patient age group found in between the 50-69 years age. In regards to impact Virtual based education programon the knowledge and practice of hemodialysis patients in relation to selected components of HRQoL,the mean post-test score of MHD patients was more than the mean pre-test score. all items except those related to dialysis access and sexual dysfunctions are associated with knowledge score in relation to selected components of HRQoL and selected demographic variables of haemodialysis patients. **Conclusion**: Virtual based education nursing programintervention interdialytic period in the hospital setting found effective in improving knowledge and practice in relation to the selected components of HRQoL among MHD patients. It will also helpful for better physical as well as psychological outcome from the disease.

Key words: Virtual Based Education Program, Practices, Hemodialysis, Health related quality of life (HRQoL).

Introduction:

“Bones are break, muscle can atrophy, glands can loaf, and even brain can go to sleep without immediate danger to survival. but should the kidney fail, neither bones, muscle, muscles glands, nor could brain carry on”. [5]renal diseases can range from infection of the urinary tract to chronic kidney disease. The renal diseases outcome quality initiative of the national kidney foundation (2017) defines chronic kidney disease as either damage to the kidney or a glomerular filtration rate (GFR) of less than 60 ml /min/1.73 m2 for more than three moths running.[5]Chronic Kidney Disease (CKD) is a universalcommunity health problem, a communaldisaster, and an economic problematic disaster. Maintenance hemodialysis (MHD) is the treatment given to CKD patients as a long-term treatment as prescribed by nephrologist.[5] The hemodialysis schedule is built on two pillars: the limit of certain nutrients, and exclusion of excessmetabolites from the blood through regular dialysis. Central to the actual management of patients with end stage renal disease (CKD stage V) is adherence to this beneficial regimen. Successful hemodialysis depends on four factors: fluid restriction and attendance at hemodialysis session. [6]

The studies done till date highlights the general health status vis- a-vis symptoms/ problems and complications generally experienced by MHD patients. A high symptom burden impact undesirably on patients HRQoL.[7]

The knowledge of symptoms / problems and their correctiveactions would help patient's ton reduce the occurrence and intensity of symptoms / problems, which will ultimatelyrecover their HRQoL.Several studies report the valuable effects of education on chronically ill patients, including MHD patients, with respect to changes in knowledge medical characteristics, symptoms/ problems burden morbidity and mortality.[8]

An exploratory study conducted in Delhi to assess the knowledge and practice about quality of life among hundreds the dialysis patient, investigator selected patients through the non-probability purposive sampling technique. Data collection was done through the self-administered structured questioner on knowledge and practice related to health-related quality of life. Study revealed that no one has possessed excellent knowledge and 19 % them had good knowledge. 50 % had average knowledge and 29 % very poor knowledge.[9]

The significanttransformation has been noted in the number and severity of symptoms/ problems in MHD patients who were well-informed compared to those were not. Besides no data were available about the effect of education on the knowledge and practice of MHD patients in relation to the symptoms/ problems affecting the HRQoL.[10] Hence it was decided to teach MHD patients about symptoms/ problems and to assess the effect of the health promotion activity through a structured interview schedule before and after.

Hypothesis:

H01: TheVirtual based education programhas no significance effect on knowledge in relation to selected components of HRQoL among hemodialysis patients.

H02:theVirtual based education programhas no significant effect on practice in relation to selected components of HRQoL among hemodialysis patients.

H03: there is no association between pre-test knowledge score in relation to selected components of HRQoL and selected demographic variables of haemodialysis patients.

Material and methods:

AQuasi experimental, one group pre-testpost-testresearch study was conducted to assess the impact of the Virtual based education programamong the maintenance haemodialysis patients. 110 maintenance hemodialysis patient were selected from dialysis unit of tertiary care hospital though the non-probability convenient sampling. Data were collected using Twenty items self-structured questionnaire on knowledge to selected components of HRQoL with through the structured interview schedule along with the patients. Those patients are continuously taken one moth maintenance hemodialysis treatment and without other organ failure are included in this study. The reliability was

determined by test- retest method administering Twenty items self-structured questionnaire on knowledge to selected components of HRQoL of patient at different dialysis unit. Reliability coefficient calculated r=0.88 which is significant. Pertest was conducted after written and verbal consent: followed by Virtual based education programon quality of life among hemodialysis patients. Virtual based education program was regularly provided to hemodialysis patient during the interdialytic period (Three Hour) for twenty-one days in the presence of investigator. post-test was done after 21 days of implementation of Virtual based education programthough the structured interview schedule. For virtual based education program televisions are placed Infront of the patient bed in the dialysis unit.Analysis and interpretation of data were done by using descriptive and inferential statistics.

Results:

Findings related demographic data of maintenance hemodialysis patients were calculated through frequency and percentage. 60.91 % were male and 39.09 % belong to the female patients, of which 84.55% were married. majority of them were in the age group of 50-69 years (63.64%), with regards to education 31.82 % were graduates or above and only 7.27 % were illiterate. All patient was reconvening maintenance dialysis treatment cycle three time in week regularly for one year.

Figure : 2 Figure: 2 Distribution Hemodialysis patients based on primary cause of CKD.

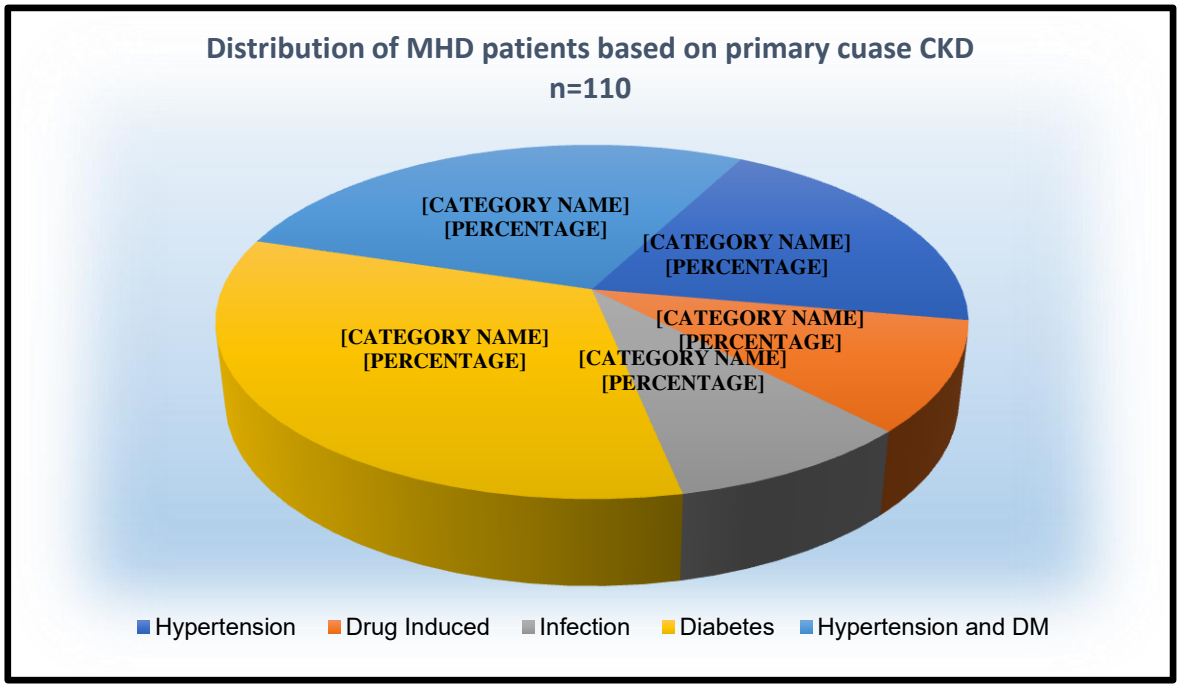

Figure 2: revealed that primary causes of CKD among the maintenance hemodialysis patients participated in the study, findings suggest that, majority participants were developed CKD due to diabetes mellitus 33%.

Figure: 3 distribution of hemodialysis patients based on overall knowledge related selected components of HRQoL.

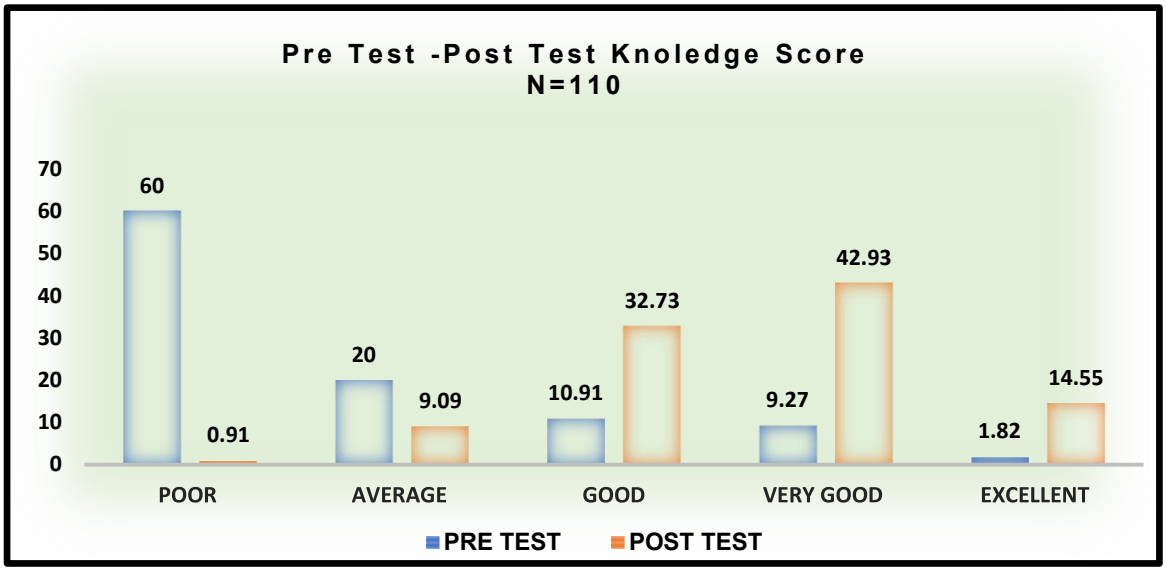

Figure: 3 reveals that 60% were in poor knowledge category pre test where as in the post test only 0.91 % were in the same category and 90.01% were in the good and above category during post-test.

Table:1 significance of the difference in pre-test and post-test mean knowledge scores among haemodialysis patients.

N= 110

Knowledge score	mean	SD	t	df	P value
Pre test	38.35	15.82	-21.80	df	0.05
Post test	66.26	10.70			

The mean post-test knowledge score of HD patients was more than the mean pre-test knowledge score, p value =0.05. hence the null hypothesis is rejected.

Table: 2 significance of the difference in distribution of hemodialysis patients based on selected item wise knowledge of practice related top selected components of HRQoL during pre-test and post-test using person chi square.

Variables	Pearson Chi Square Value	df	P Value
Breathing difficulty	49.10	5	**0.05**
Exercise thirst and dry mouth	1.37	5	**0.05**
Loss of taste and appetite	85.87	5	**0.05**
Constipation	26.16	4	**0.05**
Body pain	87.60	5	**0.05**
Cramps during and after dialysis	71.18	5	**0.05**
Weakness after dialysis	74.83	5	**0.05**
Disturbed sleep	53.70	5	**0.05**
dry skin and itching of skin	56.46	5	**0.05**
Restricted mobility	72.96	5	**0.05**
Clotting or problem with access site	3.05	5	**0.691**
Sexual dysfunction	4.47	5	**0.483**

Table: 2 shows that there is significant difference in 10 out of 12 items (0.05) between pre-test and post-test knowledge score. So null hypothesis HO3 is rejected.

It is being interpreted that Virtual based education programimproved knowledge of practice related to selected components of HRQoL. There was no statistically significant association between pre-test knowledge score and demographic variable of maintenance hemodialysis patients at 0.05 level of significance.

Discussion:

In this study majority of the maintenance hemodialysis patients were in the age group of 50 - 69 years age group and majority of male patients. All patients were taking three hours dialysis treatment for three times in week. This is consistent with study conducted by morais et al, 63 % patient were male and all are on same dialysis cycle in per week.[11] The findings demonstrated that Virtual based education programhas significant effect on the knowledge in relation to the selected components of HRQoL.Among the maintenance hemodialysis patients. These findings are similar to one group pre-test post-test study conducted by Mohini Sharma at dialysis unit on effectiveness of information booklet provided to hemodialysis on knowledge of home acre and quality of life management.[12] A study

undertaken by Schlatter et al to determine the effect of a patient's education intervention on knowledge in hemodialysis patients with abnormally high phosphorus levels also revealed similar results. [13]

Conclusion: As self-care is the main predictor of HRQOL in patients with ESRD, Virtual based education programalso promotes self-care and improve the patients' HRQOL and help to reduce complication in interdialytic period. Increasing the knowledge and awareness among the hemodialysis patients through various teaching devices and improving their QOL is aresponsibilities nursingprofessional. Nurses should educate the patients about self-care behaviours and help them to maintain quality of life.

Ethical considerations: formal ethical approval received from institutional ethical committee, informed consent was obtained from participants and assured of anonymity.

Source of funding: Self-Funded

Conflict of interest: Nil

References:

1) Unruh ML, Hess R. Assessment of health-related quality of life among patients with chronic kidney disease. Adv Chronic Kidney Dis. 2007; 14(4): 345-352.
2) Kaufman SE. The increasing importance of quality of life research. Clin Res. 2001; 1: 18-22. 3.
3) Fabrizi F, Messa P, Martin P. Health-related quality of life in dialysis patients with HCV infection. Int J Artif Organs. 2009; 32(8): 473-481.
4) Simmons L. Dorothea Orem's Self care theory -hemodialysis patients; nephrology nursing J. 2001536(4): 419-21.
5) Homer W. Smith, National kidney foundation TM your Kidney; master chemist of the body. Jan 20.2017
6) Umesh Khanna, the economic dialysis in India, Indian journal of nephrol2009 Jan; 19(1):1-4.
7) Sabitha vadakedath, dialysis: a review of the mechanism underlying complications in the management of chronic renal failure. Cureus: 2017: Aug;9(8):1603.
8) Abdel – Khader K, Unruh ML, Weisbord SD. Symptoms burden, depression and quality of life in chronic and end stage renal disease. CL. L am Soc. Nephron 2016(4)(6): 1057-1065

9) Barnet T, Li Yoong Pinikahan J, Si-Yen T. Fluid compliance among patient having hemodialysis can an educational program made a difference? J Adv. Nurs 2018;61(3)300-6
10) Navneet et al., an exploratory study to assess the knowledge and practice regarding quality of hemodialysis patients attending selected hospital of Delhi, Asian Journal Nursing Education and Research. 2015: vol;2, page no: 119-20.
11) Morsis AAC, Silva MAT, Vidigal ET, Costa RA, Lyreco et al. relation to nutrient status and food intake in dialysis patients. Clinics 2009 60;185-190
12) Mohini Sharma, effect of information booklet provided to hemodialysis on knowledge of home acre and quality of life management. The nursing journal of India: 2009 ;12 (8), page no 12-16.
13) Schlatter S. teaching program effect of a patient's education program with abnormally high phosphorus levels also revealed similar results: American journal nurses nephrology ;2108: 10 (6), page no 122-26.