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A Study to Assess the Effectiveness of SOP on Knowledge and Practice Regarding Nursing Management of Patient During Hemodialysis Procedure among Staff Nurses of Dhiraj Hospital, Vadodara

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Abstract

Background: Chronic kidney disease affected 753 million people globally in 2016, including 417 million females and 336 million males.[1] So it is important to enhance the knowledge and practice regarding nursing management of patient during hemodialysis among staff nurses.

Method: Quantitative research approach with pre-experimental one group pre-test and post-test design was adopted and sample was selected by using non-probability convenience sampling technique which consists of 90 samples. Aself-structured knowledge questionnaires and practice checklist was prepared to assess the knowledge and practice of staff nurses.

Result: With regards to the pre-test knowledge, the score of 19 (21.1%) staff nurses had adequate level of knowledge and 71(78.9%) had inadequate knowledge, while in post-test 80(88.9%) had excellent knowledge, 4(4.4%)had inadequate level of knowledge and 6(6.7%) of them had adequate knowledge. The obtained pre-test mean score was 8.61 and after providing SOP it increased to 13.83, the mean difference of the pre-test and post-test was 5.22. The standard deviation (SD) of pre-test & post-test was 35.99 & 18.8. The obtained paired "t" test value was 43.57, significant at 0.05 level. Whereas the pre-test score of practice shown 51 (56.67%) had inadequate practice and 39 (43.33%) had adequate practice, the post-test data reveals that 80 (88.9%) had excellent score towards practice. The obtained pre-test practice of mean score was 8.68 and post-test of practice mean score was 13.88 of staff nurses. The mean difference of the pre test and post test of practice score was 5.2 the pre-test SD of practice score was 0.89 and post-test SD 0.79 the obtained paired 't' test value 45.11, shows significant at 0.05 level. It indicates that there was increased in the level of knowledge and practice towards nursing management of patient during hemodialys is after providing SOP.

Conclusion: The findings of the study concluded that majority of staff nurses were having inadequate level of knowledge and average practice. The SOP was effective among staff nurses in improving knowledge (t (89) = 43.57) and practice score (t (89) =45.11) significant at 0.05 level regarding nursing management of patient during hemodialysis.

Keywords: *Effectiveness, SOP, Knowledge, Practice, Staff nurses, nursing management of patient during hemodialysis.*

Introduction

Kidney is an important organ of our body. The primary function of the kidney is to regulate the volume and composition of extra cellular fluid (ECF) and excrete waste products. It helps in maintaining the body in a healthy state. End stage renal disease (ESRD) is a slow progressive, irreversible distruction of functional unit of kidney caused by inherited disorder, prolonged medical condition such as diabetic mellitus and hypertension or long term use of certain medication.[2]

Chronic kidney disease (CKD) is a type of kidney disease in which there is gradual loss of kidney function

over a period of months or years. Early on there are typically no symptoms. Later, leg swelling, feeling tired, vomiting, loss of appetite, or confusion may develop. Complications may include heart disease, high blood pressure, bone disease, or anemia[3].

Kidney transplantation and hemodialysis are the only choices of treatment for ESRD and CKD patients. Transplantation is a good choice as it can relive the patient's entire problem with ESRD, but it is not possible for every patient due to the shortage of suitable donors, increased incidence of organ transplant rejection, age and ill health of many ESRD patients. Hence, most of the patient prefer and have to depend on hemodialysis for survival. Hemodialysis is the procedure to remove waste and excess fluid from the blood when the kidney cannot do so sufficiently through the process of diffusion, osmosis and ultrafiltration using external dialyser. Studies have revealed that, about one million people are undergoing hemodialysis worldwide. In hemodialysis patient there may be a chance for developing complications.[4]

Need for the study: Kidney failure is the last stage of long-term (chronic) kidney disease. This is when your kidneys can no longer support your body's needs. Usually, you will go on dialysis when you have only 10% to 15% of your kidney function left. You also may need dialysis if your kidneys suddenly stop working due to acute renal failure.[5]

Hemodialysis is a prolonged procedure lasting for 3-5 hours. According to a research study, the acute complications commonly occur during routine hemodialysis treatments include, hypotension (25 to 55%); cramps (5 to 20%); nausea and vomiting (5 to 15%); headache (5%); chest pain (2 to 5%); back pain (2 to 5%); itching (5%); fever and chills (Less than 1%).[6]

Your kidneys' main job is to remove toxins and extra fluid from your blood. If waste products build up in your body, it can be dangerous and even cause death. Hemodialysis (and other types of dialysis) does some of the job of the kidneys when they stop working well Hemodialysis can: Remove extra salt, water, and waste products so they don't build up in your body, keep safe levels of minerals and vitamins in your body, Help control blood pressure, Help produce red blood cells. During hemodialysis, your blood passes through a tube into an artificial kidney or filter. The filter, called a dialyzer, is divided into 2 parts separated by a thin wall, As your blood passes through one part of the filter, special fluid in the other part draws out waste from your blood, Your blood then goes back into your body through a tube. Your doctor will create an access where the tube attaches. Usually, an access will be in a blood vessel in your arm.[7]

Material Methodology

Research design: Pre experimental one group pre-test post-test research design

Setting: Dhiraj Hospital, Piparia, Waghodiya Vadodara.

Sample size: 90 staff nurses.

Inclusion criteria:

- Staff nurses with G.N.M., B.Sc. or PB B.Sc. qualification.
- Staff nurses who are present at the time of study.

Exclusion criteria for sampling:

- A.N.M, & M.Sc. Nursing staffs

Tool for data collection: This tool consists of three sections:

Section 1: Demographic variables such as gender, age, education, qualification and area of working.

Section 2: Self structured knowledge questionnaire was used to assess the knowledge regarding nursing management of patient during hemodialysis.

Section 3: Self designed practice check list was used.

Reliability: The reliability of tool established by using split half method Spearman Brown Prophecy formula (r=0.75) reliability test.

Data collection procedure: The formal permission was obtained for the approval of the study from Dhiraj hospital to conduct study from 10th to 17th January 2019. The Data Collection done within a given period of 1 week. The investigator selected 90 staff nurses the inclusion criteria for data collection by using non-probability convenient sampling. The investigator selected the subject and established the rapport by explaining purpose of the study, the co-operation required and the anonymity assured before obtaining verbal consent.

Initially the demographic tool, self structured questionnaire, administered to the sample to know existing level of knowledge regarding nursing management of patient during hemodialysis then the was given to the samples of the study. After 7 days post-test was administered to assess the effectiveness of the SOP among staff nurses.

Statistical Design: Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (Chi square and paired t test) was applied to test the study hypothesis.

Findings:

Section A: Description of sample according to their demographic variable: Age of (50%) staff nurses were in the age group of 21-25 years while remaining (50%) are from the age group of 26-30 years.

The highest percentages (95.6%) of staff nurses were female while only (4.4%) are male staff.

Maximum (64.4%) of staff nurses belongs from the B.Sc Nursing and (35.6%) of staff nurses belongs from the G.N.M.

Majority were having (65.6%) 0-2 year qualification experience, while (34.4%) staff nurses were having 3-4 year qualification experience.

Majority (44.4%) were working in a critical area, (23.3%) were working in a Gynec and obstetric ward, (18.9%) were working in a Surgical ward, and (13.3%) were working in a Medical ward.

Section B: Analysis of pre-test and post test score of knowledge and practice Regarding nursing management of patient during hemodialysis.

Table 1: Distribution of pretest and post-test knowledge score according to the percentage n=90

Sr. No.	Categories of knowledge score	Percentage	Pre test	Post test
1	Inadequate	<33%	78.9%	4.4%
2	Adequate	34-66%	21.1%	6.7%
3	Excellent	>67%	0%	88.9%

Table 2: Distribution of pre-test and post -test practice score of staff nurses regarding practice checklist n=90

Sr. No.	Categories of practice	Percentage	Pre test	Post test
1	Inadequate	<33%	56.7%	6.7%
2	Adequate	34-66%	43.3%	4.4%
3	Excellent	>67 %	0%	88.9%

Section C: Effectiveness of Standard operating procedure:

Table 3: Comparison of pre-test and post-test knowledge score of staff nurses n=90

Variable	Pre test	Mean	Mean Difference	Std. Deviation	t-Value
Knowledge regarding nursing management of patient during hemodialysis	Pre-test	8.61	5.22	35.99	43.57
	Post-Test	13.83		18.8	

* Significant at 0.05 level, *t (0.05, 89df) =1.98

Table 4: Comparison of pre-test and post-test practice score of staff nurses. n=90

Variable		Mean	Mean Difference	Std. Deviation	t- Value
Practice score regarding nursing management of patient during hemodialysis	Pre-test	8.68	5.2	0.89	45.11
	Post-Test	13.88		0.75	

* Significant at 0.05 level, *t (0.05, 89df)=1.98

Section D: Association between pre-test knowledge and practice score with socio demographic variables.

Association between pre-test knowledge score and socio-demographic variables: These data reveals that association between knowledge of staff nurses and demographic variable. There is no any significant demographic variable. So Hence, research hypothesis H_2 was not accepted.

Association between pre-test score of practice and socio- demographic variables: Socio-demographic variable are education qualification of staff nurses, with χ^2 value 4.00(1df=3.84), qualification experience of staff nurses with χ^2 value 7.05 (1df= 3.84) so, for this variable hypothesis is accepted. The non significant demographic variable is age, gender, education, clinical experience, and working of area. The association between practice score of staff nurses and demographic variable which of significant are age of staff nurses, with χ^2 value 4.07 (1df=3.84), gender of staff nurses with χ^2 value 5.73(1 df= 3.84), education qualification of staff nurses with χ^2 value 8.80(1 df=3.84) and qualification experience of staff nurses with χ^2 value 4.92(1 df= 3.84) for this variable hypothesis is accepted. The non significant demographic variable is working area of nurses. Hence, Hypothesis H_2 is partially accepted.

Discussion

The purpose of the study is to evaluate the effectiveness of the SOP on staff nurses. The findings of the study concluded that majority of staff nurses had inadequate level of knowledge and average practice. The SOP was effective among staff nurses in improving knowledge (t (89) = 43.57) and practice score (t (89) =45.11) significant at 0.05 level regarding nursing management of patient during hemodialysis.

The same study was conducted by, ebrahim a.a, al-mawsheki, m.sc.et.all "Nurses' Knowledge and Practice Regarding Care for the Patients during Hemodialysis" descriptive exploratory design was used in this study. The study included 50 nurses. The findings of the indicated that the majority of studied nurse 90% had satisfactory level of total knowledge about hemodialysis, while 44% of studied nurse had unsatisfactory level of practice regarding care for the patient during hemodialysis. There was no significant correlation between practice score and total knowledge score.[8]

Conclusion

This study was undertaken to assess the effectiveness of SOP regarding nursing management of patient during hemodialysis, the study involves one group pre-test post-test pre experimental research design with non probability purposive sampling technique, 90 samples of staff nurses were selected on the basis of inclusion and exclusion criteria. Analysis of obtained data was planned based on the objectives and hypothesis of the study, both descriptive and inferential statistics were used for the analysis of the data. The data is interpreted in the forms of tables and graphs.

Conflict of Interest: The authors declare that there is no conflict of interest statement.

Source of Funding: Fund for this research is researcher own.

Ethical Clearance: Ethical Clearance for this dissertation was obtained from the ethical committee SVIEC of Sumandeep Vidyapeeth.

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