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Research Article

"Effectiveness of Structured Teaching Program on Knowledge Regarding Renal Care (Dialysis) at Home among the Caregivers of Renal Failure Patient"

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ABSTRACT

Background: Chronic kidney disease poses a threat to the health care system. Dialysis saves patient life. Patients on dialysis patient have a greater chance for increased survival time owing to the advances in treatment modalities; therefore, more comprehensive information to understand the aspects of renal care is very important. **Aim and Objective:** The objective of the study was to assess the pre- and post-test knowledge score regarding renal care (dialysis patient) and to evaluate the effectiveness of structured teaching program (STP) on renal care (dialysis patient) at home among caregivers. **Materials and Methods:** An evaluative research approach with a pre-experimental design was used for the study. The study was conducted on 60 samples at caregivers of renal patients at selected hospitals of Udaipur city. Sample was selected by non-probability convenient sampling technique. Data were collected using a self-structured questionnaire. **Statistical Analysis Used:** Descriptive and inferential statistics were used for interpretation and analysis of data. **Results:** The findings of the present study showed that the highest percentage (61.7%) of caregivers belonged to the age group of 26–35. The mean post-test knowledge score (22.86) also was higher than the mean pre-test knowledge score (10.35). The comparison of pre-test and post-test knowledge score showed that there was a significant gain in knowledge scores of caregivers after STP at 0.05 level (t =7.41, $P < 0.05$). This shows that a STP was effective. **Conclusions:** The study findings concluded that caregivers had inadequate knowledge regarding renal care before STP. After giving structured teaching programme patients and care givers had greater potential for accelerating awareness regarding home based renal care.

Keywords: Effectiveness, Dialysis, Structured teaching programme

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Introduction

Chronic kidney disease defined as a gradual loss of kidney function. Dialysis functions as a supplement of kidney function for normal resume of activity of daily living.[1] According to the WHO, global burden of disease 2015 showed that 1.2 million people died from kidney failure, an increase of 32% since 2005. In 2010, around 2.3–7.1 million people with end-stage kidney disease died without access to chronic dialysis. Need for dialysis is increasing day by day, as shows that 2.62 million people received worldwide in 2010 and may be double by 2030. Important risk factor of kidney diseases is a diarrheal disease, HIV/AIDS, low birth weight, malaria, and preterm birth. In India, 29% patients died and 13% discontinued dialysis within 12 months. Kidney disease puts a heavy burden on patients and leads out of pocket expenditure: 87.1% of patients spending 100% of their monthly income on dialysis in public hospitals.[2,3]

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Government of India has committed an agenda with Universal Health coverage that at least one-eight station dialysis unit in each of its 688 districts, offering free hemodialysis to people living below the poverty threshold by 2022. Chronic kidney disease and poses threats to the health care system.[4] Dialysis life-saving measures for renal failure patient and prolong life of the patient. Patients on dialysis patient have a greater chance for increased survival time owing to the advances in treatment modalities.[5,6]

The difficulties presented in providing adequate support for patients with any chronic disease, such as chronic kidney disease, have been emphasized.[7] Hemodialysis and peritoneal dialysis may have a disruptive influence on family members' social lives[8,9] and the structure of the week may be geared toward dialysis sessions.

To provide combined therapeutic approach to treatment, information should be given to the patients in such a way that promotes maximum understanding and acceptance.[7,8] It creates a problem as it prolongs life. Hence, knowledge of renal care will help in giving quality life to the patients. Therefore, more comprehensive information to understand the aspects of renal care is very important.

Aim and Objective(s)

The objective of the study was to assess the pre- and post-test knowledge score regarding renal care (dialysis patient) and to evaluate the effectiveness of a structured teaching program (STP) on renal care (dialysis patient) at home among caregivers.

Materials and Methods

An evaluative research approach with pre-experimental design was used for the study. The study was conducted on 60 caregivers of renal failure patients at selected hospitals of Udaipur city. We excluded to those who are unable to understand Hindi language. Sample was selected by the non-probability convenient sampling technique. The study purpose and procedure were explained to eligible participants on recruitment to study. Informed consent has taken after their approval to include in the study. Ethical clearance was taken from Institutional Ethical Committee. A self-structured questionnaire was prepared for knowledge assessment of caregivers regarding renal care patients and self-structured program was prepared. STP was included General information on kidney and disease, dialysis procedure, nutrition, fluid and electrolyte balance, and management of minor ailments. Sample selection was done and pre-test conducted followed by post-test. Data were entered in MS Excel spreadsheet and checked for consistency. Analysis was performed using SPSS version 22. Confidentiality was maintained for all collected data.

Results

A total of 60 caregivers were included in the study.

Table 1 shows that the highest percentages (61.7%) of caregivers were in the age group of 26–35 years and least (3.33%) were in the age group of 36–45 years and 25% were in the age group of <25 years. Education status reveals that 13.3% had higher secondary course, 13.3% had upper primary, 45% had primary, and 3.33% graduate and post-graduate education. Occupation of caregivers shows that majority of 54% were unemployed, 10% were labors, 25% were agriculture, and 11.7% skilled workers. Source of information regarding renal care, 41.7% from health

Table 1: Frequency and percentage distribution of baseline characteristics *n*=60

Demographic variables	Frequency	%
1. Age in years-		
(a) <25 years	15	25
(b) 26–35 years	37	61.70
(c) 36–45 years	8	13.30
(d) Above 45 years	0	0
2. Gender		
(a) Male	43	70
(b) Female	18	30
3. Religion-		
(a) Hindu	50	83
(b) Christian	0	0
(c) Muslim	10	17
(d) Any other religion	0	0
4. Type of family-		
(a) Nuclear	18	30
(b) Joint	42	70
(c) Extended	0	0
5. Educational qualification-		
(a) Primary	23	13.30
(b) Upper primary	27	13.3
(c) Higher secondary	8	13.30
(d) Graduate	2	3.33
6. Occupation-		
(a) Unemployed	32	54
(b) Agriculture	15	25
(c) Labor	6	10
(d) Skilled worker	7	11.70
7. Monthly family income-		
(a) Below 5000	12	20
(b) 5000–10000	36	60
(c) 10000–15000	10	16.70
(d) Above 15000	2	3.33
8. Residence-		
(a) Urban	47	78.30
(b) Rural	13	21.70
9. Source of knowledge-		
(a) Family members	6	10
(b) Health personnel	25	41.70
(c) Mass media: – T.V. Radio, Newspaper, etc.	18	30
(d) Multiple source of information	11	18.30

personnel, 18.3% from multiple sources and 30% from mass media and 10% respondents gets the source of knowledge on renal care from family members.

Table 2 shows that before the administration of the STP, majority (63.3%) of the sample had inadequate knowledge (score: 0–9) regarding renal care while moderate adequate (score: 10–18) was observed in 31.7% of the sample and only 5% have adequate knowledge (score: 19–27).

In the post-test, there was a marked improvement in the knowledge of the sample with majority (76.6%) gained adequate knowledge regarding renal care and 23.33% gained moderate adequate knowledge.

Table 3, the data depict that the mean post-test knowledge score (22.86±3.47) was apparently higher than that of the mean pre-test (10.35±3.59) knowledge score.

Chi-square values between demographic variables and the post-test knowledge scores of caregivers regarding renal care reveal that there was a significant association between knowledge scores of post-test and age, religion, type of family, educational qualification, and source of information ($P \leq 0.05$).

Discussion

In this study, 63.3% sample had inadequate knowledge (score: 0–9) regarding renal care, while moderate adequate (score: 10–18) was observed in only 31.7% of the sample and only 5% have adequate knowledge. The mean post-test knowledge score (22.86±3.47) was apparently higher than that of the mean pre-test (10.35±3.59) knowledge score. The present study is supported by the findings of a similar exploratory cross-sectional study conducted by Navneet *et al*., 2015, to assess the level of knowledge about post-dialysis home care among caregivers of hemodialysis patients attending the selected hospital of Mohali. The result showed that no one possessed excellent knowledge, 19% were having good knowledge, 50% had average knowledge, and 29% had poor knowledge and 2% was deemed very poor knowledge. The above finding showed that most of the caregivers of chronic renal failure patients undergoing hemodialysis had inadequate and moderately adequate knowledge regarding post-dialysis home care.[10] Mollaoglu showed that among the caregivers, the post-educational mean scores (55.0_7.6) of caregiver burden were observed to be lower than the pre-educational scores (43.9_5.2) and the difference was found to be statistically significant.[11] These home-based educational programs were demonstrated a decrease in the burden of hemodialysis caregivers.

In this study, the pre-test knowledge on homecare management of patients on hemodialysis was 50%, which was comparatively less than the post-test 100%; similarly, a study conducted to assess the knowledge on the management of patients with chronic renal insufficiency (CRI) in the North-eastern United States. A total of 602 patients with CRI (creatinine ≥1.5 mg/dl for women and ≥2.0 mg/dl for men) were seen between October 1994 and September 1998 at five nephrology outpatient clinics in the Boston area. Structured interview schedule was used to assess their home care knowledge on chronic kidney failure. This study concluded that 60% of people possessed an inadequate level of knowledge regarding home care management of chronic renal failure.[12]

A cross-sectional study was conducted on home care management, knowledge, and functioning and well-being of patients on hemodialysis. In this study, measures of home care management and knowledge were administered to 372 patients on hemodialysis from 17 dialysis facilities. This study concluded that patients had in adequate knowledge regarding home care management and investigator suggested that the educational program is needed for the patients to improve their knowledge.[13]

Table 2: Comparison of knowledge score of caregivers regarding renal care (dialysis patient) *n*=60

Level of score	Score range	% range	Pre-test		Post-test	
			(*n*)	%	(*n*)	(%)
Inadequate	0–9	0–33	38	63.3	0	0
Moderate adequate	10–18	34–66	19	31.7	14	23.33
Adequate	19–27	67–100	3	5	46	76.7
Total=	30	100	60	100	60	100

Table 3: Range, mean, and standard deviation of pre- and post-test knowledge scores of caregivers *n*=60

Test	Obtained range	Mean	S.D.
Pre-test	5–21	10.35	3.59
Post-test	16–27	22.86	3.47

Conclusion

The study findings concluded that caregivers had inadequate knowledge regarding renal care before STP. After giving structured teaching programme patients and care givers had greater potential for accelerating awareness regarding home based renal care.

Limitation of the Study

The study sample size was limited to 60. The study was limited to Udaipur district, Rajasthan.

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