

SATISFACTION WITH CARE IN HEMODIALYSIS UNIT AMONG MAINTENANCE HEMODIALYSIS (MHD) PATIENTS

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ABSTRACT

The study was aimed to assess the Maintenance Hemodialysis (MHD) Patients' Satisfaction with Care in Hemodialysis Unit. A descriptive design was used on 70 Maintenance Hemodialysis (MHD) Patients of hemodialysis unit of Deep Kidney Care Centre, Model Town, Ludhiana, Punjab. With the help of total enumerative sampling technique, 70 Maintenance Hemodialysis (MHD) Patients were selected. Structured Patient Satisfaction Scale (PSS) was used to assess Maintenance Hemodialysis (MHD) Patients' Satisfaction with Care in Hemodialysis Unit. Patient Satisfaction Scale (PSS) included various dimensions of satisfaction related to care like direct nursing care, safe environment, collaboration, therapeutic communication, ethics and documentation in hemodialysis unit. The data was obtained through self-report (interview schedule) method. Analysis was done in accordance with the objectives of the study. Results showed that out of 70 Maintenance Hemodialysis (MHD) Patients, 47(67.1%) of maintenance hemodialysis patients were satisfied with the care, followed by 20(28.6%) of maintenance hemodialysis patients, who were partially satisfied and only 03(4.3%) of maintenance hemodialysis patients were not satisfied with the care and Mean and SD of overall Patients' Satisfaction score was on higher side i.e. 69.36+9.49.

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INTRODUCTION

Patient satisfaction has been often defined as the extent of agreement between what a patient expects to result or obtain from the healthcare experience and the perception of care they actually receive (La Monica *et al.*, 1986). This definition implies that the individual has formed expectations prior to or during the healthcare experience, and that at some point, must consider whether of the services received during the experience meet, do not meet, or exceed those expectations. The first attempts to evaluate patient satisfaction with healthcare services originated in 1956 (Merkouris *et al.*, 1999). In the 1990s, the Healthcare Effectiveness Data and Information Set standards required provider organizations to survey patient satisfaction with care. Scholars have distinguished between responses regarding amenities and those about presumably more fundamental aspects of care, such as

interpersonal care, communication, and coordination, thought ultimately to matter more to patients than the elegance of medical facilities (Press, 2006). The evaluation of patients' satisfaction when dealing with chronic illnesses is an increasingly important domain. Firstly, patient satisfaction is associated with adherence to treatment regimens. Furthermore, patient satisfaction is also increasingly considered as an important outcome in its own right. For instance, it is one of nine key dimensions of quality addressed in the European Foundation for Quality Management's excellence Model (European Foundation for Quality Management). Health-care quality and its improvements have become increasingly important in healthcare (Bodenheimer, 1999) including end-stage renal disease (ESRD) care (Lowrie *et al.*, 1981). Patient satisfaction is also an important aspect of dialysis care and is considered as an indicator for evaluating the health care outcomes, while also affects clinical performance, patient retention and medical malpractice (Prakash, 2010) Furthermore it may be a very effective outcome to measure the success of health care team in dialysis unit when dealing with chronic patient undergoing hemodialysis therapy. Quality

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improvement pertains to both the quality of dialysis treatment and its related products and services. Hard outcomes in ESRD patients treated with hemodialysis (HD), such as mortality, are associated with psychosocial variables such as depression, social support, or patients' perception of their illness (Kimmel *et al.*, 1998) as well as affected by age, diabetes mellitus, and other medical conditions. Numerous scientific and technical advances in hemodialysis therapy and the outcomes of patients with end stage renal disease are far from reaching the desired targets (Pinheiro *et al.*, 2013). However better outcomes absolutely are associated with patient involvement in the health care process (Kovac *et al.*, 2002). Owing to the chronicity of ESRD, dialysis patients can spend years of treatment in centers with extensive interaction with dialysis staff. Previous findings suggested patient satisfaction with care is associated with perception of quality of life (QOL) and burden of illness, as well as improved intermediate outcomes, in ESRD HD patients (Kimmel, 2000). Dialysis Clinic, Inc. (DCI; www.dciinc.org), has measured patient satisfaction since 1995, using an internally developed nine-item instrument modeled after Eugene Nelson's Patient Comment Card (Nelson *et al.*, 1991). Patient satisfaction with care and caregivers is an important aspect of dialysis treatment, which should be evaluated time to time to for the benefit of the patient (Kovac *et al.*, 2002).

MATERIALS AND METHODS

The objective of the study was to assess the Maintenance Hemodialysis (MHD) Patients' Satisfaction with Care in Hemodialysis Unit. The study was approved by research and ethical committee of Deep Kidney Care Centre, Model Town, Ludhiana, Punjab. Instructions were given to Maintenance Hemodialysis (MHD) Patients and they were assured that their responses would be kept confidential. Informed Consent was obtained from the patients undergoing Hemodialysis. A non-experimental descriptive research design was used on 70 Maintenance Hemodialysis Patients (MHP) undergoing hemodialysis in Deep Kidney Care Centre, Model Town, Ludhiana, Punjab. Total enumerative sampling was used to enroll the patients in the Study. The tool was organized in two Parts.

Part A: Patient's Profile including Section I: Socio-demographic Profile: It included age, gender, marital status, religion, habitat, educational status and occupation and Section II: Clinical Profile: It included dialysis vintage, HIV status, HbsAg status, HCV status, Hepatitis Vaccination, frequency of dialysis per week, no of missed dialysis, hours of dialysis, post dialysis complications, access type, access related complications, comorbidities present, intradialytic weight gain, serum values of Sodium, Potassium, Hemoglobin, Creatinine and Urea, pre, intra and post dialysis Blood Pressure and Heart Rate.

Part B: Structured Patient Satisfaction Scale (PSS): Structured Patient Satisfaction Scale (PSS) includes various dimensions of satisfaction related to care like direct nursing care, safe environment, collaboration, therapeutic communication, ethics and documentation in hemodialysis unit. All dimensions include number of statements i.e direct nursing care includes 7 statements, safe environment includes 5 statements, collaboration includes 5 statements, therapeutic communication includes 5 statements, ethics includes 5 statements and documentation includes 3 statements. Each statement was scored on a 3-point scale ranging from 1

(Never) to 3(Always). Tool was validated by various experts and reliability of the tool is predetermined by using a Cronbach's alpha coefficient to assess internal consistency ($r=0.80$). The data obtained was analyzed by using both descriptive and inferential statistics.

RESULTS

Table 1 depicts that 30(42.9%) of Maintenance Hemodialysis Patients were in the age group of 55-72 years with the mean age of 54.9 + 14.67. More than half i.e. 47(67%) of patient were males. Most of the patients i.e. 63(90%) were married. More than half 38(54.3%) were from Sikh families. Maximum i.e. 49(70%) of patients were residing in urban areas. 24 (34.3%) were educated up to elementary level. More than half i.e. 44 (62.9%) patients were non-working. Table 2 depicts that more than half of Maintenance Hemodialysis Patients i.e. 42(60%) were having dialysis vintage <12 months. All the patients 70(100%) were non-reactive for HIV infection. 3(4.3%) of patients were reactive for Hbs Ag infection. 20(28.3%) of patient were reactive for HCV infection. All 70(100%) of patient were vaccinated for hepatitis. 44(62.8%) of patients were coming twice a week for dialysis. 62 (88.6%) of patients had never missed their dialysis sessions. 63 (90%) of patients had each dialysis session of 2-4 hours. More than half i.e. 36 (51.4%) of patients had various post dialysis complications. Majority of patients i.e. 65(92.9%) had no access related complications but 5(7.1%) of patients had various access related complications and majority of patients i.e. 56(80%) had comorbidities present along with CKD. Figure 1 shows the distribution of Maintenance Hemodialysis (MHD) Patients as per post dialysis complications. Total 36 patients out of 70 had post dialysis complications. Out of which, majority 13(36.1%) of patients had nausea and Vomiting as post dialysis complications, 10 (27.8%) of patients had weakness and tiredness, 5(13.9%) of patients had cramps, 4(11.1%) of patients had Hypertension, 4(11.1%) of patients had Headache, 3(8.3%) of patients had Ghabrahat, 2(5.6%) of patients had Chest pain, 1(2.8%) of patients had constipation and 1(2.8%) of patients had seizures as post dialysis complications. Figure 2 shows the distribution of Maintenance Hemodialysis (MHD) Patients as per access related complications. Only 5 patients out of 70 had access related complications. Majority of them i.e. 3(60 %) had ecchymosis on the access site, 1(20 %) had nodules on the access site, 1(20 %) had swelling at the access site and 1(20 %) had numbness in hand on the same side that of access site. Figure 3 shows the distribution of Maintenance Hemodialysis (MHD) Patients as per Comorbidities present. Total 56 patients out of 70 had Comorbidities present. Out of 56 patients majority of them i.e. 48(85.7%) had hypertension, 34(61%) had diabetes, 6(10.7%) had CAD, 6(10.7%) had Retinopathy, 4(7.14%) had peripheral neuropathy, 2(3.6%) had CVA, 2(3.6%) had malignancy, 2(3.6%) had Nephrolithiasis, 1(1.8%) had GI bleeding, 1(1.8%) had Cholelithiasis, 1 (1.8%) had Backpain, 1(1.8%) had liver disease and 1(1.8%) had Gout. Figure 4 shows the distribution of Maintenance Hemodialysis (MHD) Patients as per access type. Majority of patients i.e. 47(67.1%) had AV Fistula, 12(17.1%) of patients had Catheter, 11(15.8%) of patients had femoral catheter and none of the patient had Graft as an access for hemodialysis. Table 3 depicts that more than half of Maintenance Hemodialysis Patients i.e. 44 (62.9%) had desirable Intra-dialytic Weight Gain. More than half i.e. 40 (57.1 %) had desirable serum sodium level.

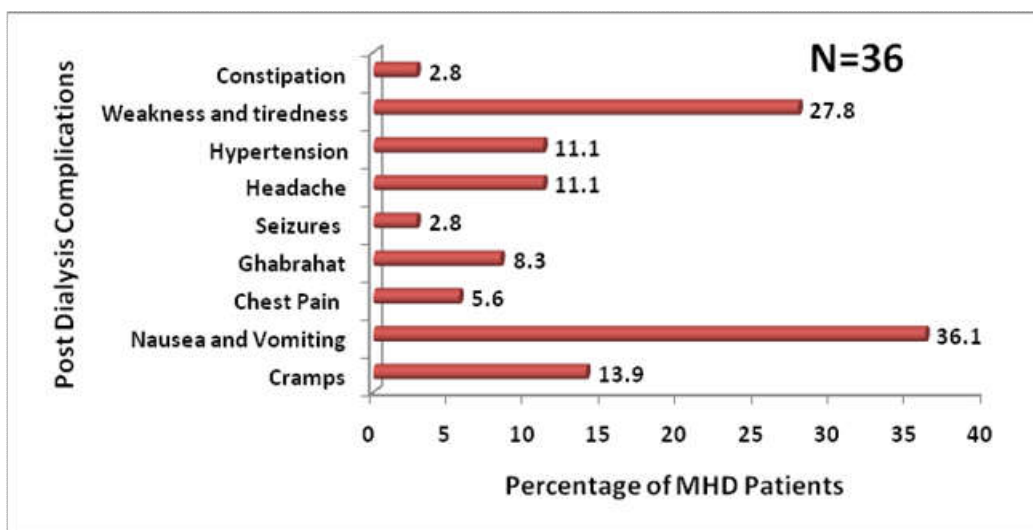


Fig 1: Distribution of Maintenance Hemodialysis (MHD) Patients as per post dialysis complications

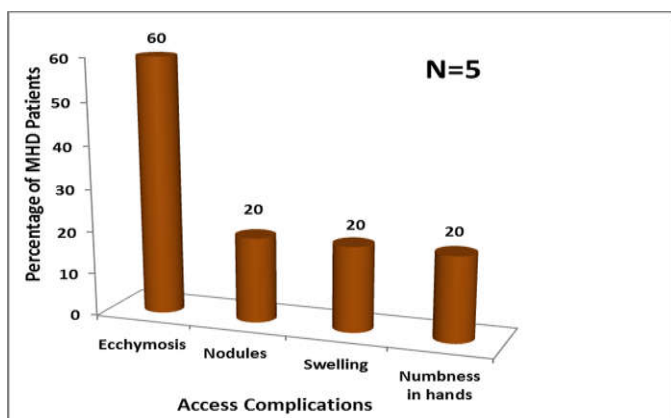


Fig 2. Distribution of Maintenance Hemodialysis (MHD) Patients as per Access related complications

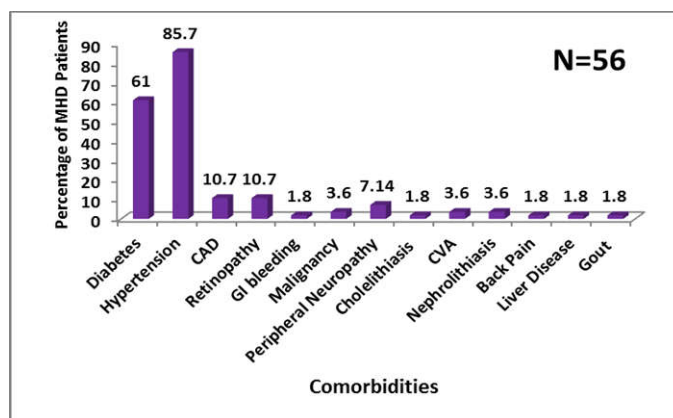


Fig 3. Distribution of Maintenance Hemodialysis (MHD) Patients as per Comorbidities present

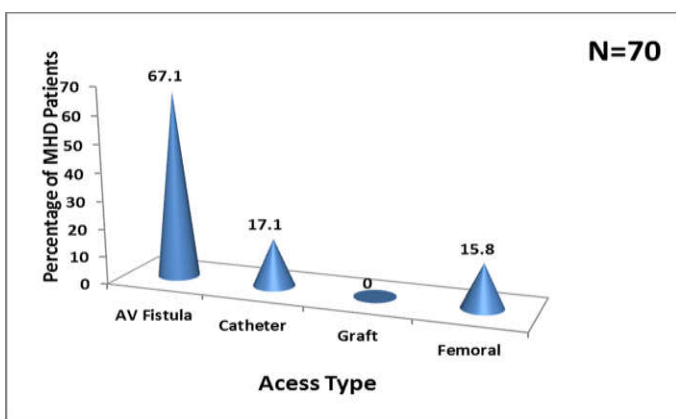


Fig 4. Distribution of Maintenance Hemodialysis (MHD) Patients as per Access type

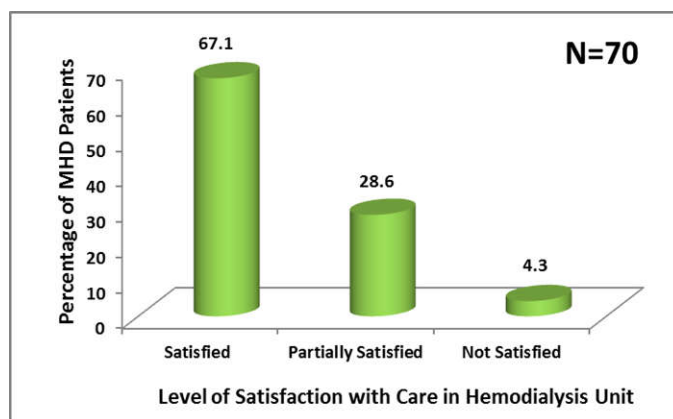


Fig 5. Distribution of Maintenance Hemodialysis (MHD) Patients as per their Level of Satisfaction with Care in Hemodialysis Unit

More than half i.e. 42 (60 %) had desirable serum potassium level. All i.e. 70 (100%) of maintenance hemodialysis patients had undesirable hemoglobin and creatinine in serum. Majority i.e. 65(92.9%) of maintenance hemodialysis patients had undesirable serum urea level and only 5(7.1%) had desirable serum urea level. Table 4 depicts the mean and standard deviation of values of clinical profile (intra-dialytic weight gain and serum values of Sodium, Potassium, Hemoglobin, Creatinine and Urea) of Maintenance Hemodialysis (MHD)

Patients Table 5 depicts the mean and standard deviation of pre, intra and post dialysis vital parameters like blood pressure and heart rate of Maintenance Hemodialysis (MHD) Patients. Figure 5 depicts that majority i.e. 47(67.1%) of maintenance hemodialysis patients were satisfied with the care, followed by 20(28.6%) of maintenance hemodialysis patients, who were partially satisfied and only 03(4.3%) of maintenance hemodialysis patients were not satisfied with the care. Table 6 depicts the frequencies, percentage, mean and SD of Level of

Table 1. Distribution of Maintenance Hemodialysis Patients (MHP) as per their Socio-Demographic profile

N=70		
Socio Demographic Profile	f	%
Age(in years)		
18-36	16	22.8
37-54	22	31.4
55-72	30	42.9
>72	02	2.9
Gender		
Male	47	67
Female	23	33
Marital Status		
Married	63	90
Unmarried/Single	07	10
Divorced/Separated	0	0
Widow/Widower	0	0
Religion		
Hindu	27	38.5
Sikh	38	54.3
Christian	02	2.9
Muslim	02	2.9
Any other	01	1.4
Habitat		
Rural	21	30
Urban	49	70
Educational Status		
Illiterate	07	10
Elementary	24	34.3
Secondary	20	28.6
Senior secondary	09	12.8
Graduate and above	10	14.3
Occupation		
Working	26	37.1
Non-working	44	62.9

Mean age=54.9 ± 14.67

Table 2: Distribution of Maintenance Hemodialysis Patients (MHP) as per their selected Clinical Profile

N=70		
Clinical Profile	f	%
Dialysis Vintage (in months)		
<12	42	60
13-24	17	24.3
25-36	05	7.1
37-48	03	4.3
>48	03	4.3
HIV status		
Reactive	0	0
Non-reactive	70	100
HbsAg status		
Reactive	03	4.3
Non-reactive	67	95.7
HCV status		
Reactive	20	28.6
Non-reactive	50	71.4
Hepatitis Vaccination		
Yes	70	100
No	0	0
Frequency of dialysis per week		
Once	20	28.6
Twice	44	62.8
Thrice	06	8.6
No of missed dialysis		
Never	62	88.6
Once	06	8.6
Twice	01	1.4
Thrice	01	1.4
Hours of dialysis(in hours)		
0-2	0	0
2-4	63	90
4-6	07	10
Post dialysis complications		
Yes	36	51.4
No	34	48.6
Access related complications		
Yes	05	7.1
No	65	92.9
Comorbidities present		
Yes	56	80
No	14	20

Table 3: Distribution of Maintenance Hemodialysis Patients (MHP) as per their selected Clinical Profile (Intra-dialytic Weight Gain and Serum Values of Sodium, Potassium, Hemoglobin, Creatinine and Urea)

Clinical Profile	N=70	
	f	%
Intra-dialytic Weight Gain		
Desirable	44	62.9
Undesirable	26	37.1
Serum Sodium		
Desirable	40	57.1
Undesirable	30	42.9
Serum Potassium		
Desirable	42	60
Undesirable	28	40
Hemoglobin		
Desirable	0	0
Undesirable	70	100
Serum Creatinine		
Desirable	0	0
Undesirable	70	100
Serum Urea		
Desirable	05	7.1
Undesirable	65	92.9

Table 4: Mean and Standard Deviation of values of Clinical Profile (Intra-dialytic Weight Gain and Serum Values of Sodium, Potassium, Hemoglobin, Creatinine and Urea)

Clinical Profile	Normal Value	N=70
		Mean \pm SD
Intra-dialytic Weight Gain	<5.7% of dry weight	2.38 \pm 1.737
Serum Sodium	135-145 mEq/L	135.51 \pm 5.498
Serum Potassium	3.5-5.0 mEq/L	4.9 \pm 0.913
Serum Hemoglobin	13.5-17.5 g/dl (for men) 12.0-15.5 g/dl (for women)	8.02 \pm 1.523
Serum Creatinine	0.6-1.2 mg/dl (males) 0.5-1.1 mg/dl (females)	8.21 \pm 3.466
Serum Urea	7-20 mg/dl	126.07 \pm 53.02

Table 5: Mean and Standard Deviation of pre, intra and post dialysis vital parameters like blood pressure and heart rate

Clinical Profile	N=70
	Mean \pm SD
Pre dialysis-Systolic Blood Pressure	149.66 \pm 20.18
Intra dialysis-Systolic Blood Pressure	150.11 \pm 17.102
Post dialysis-Systolic Blood Pressure	147.03 \pm 17.699
Pre dialysis -Diastolic Blood Pressure	82.71 \pm 10.621
Intra dialysis -Diastolic Blood Pressure	82.43 \pm 8.918
Post dialysis -Diastolic Blood Pressure	82 \pm 9.72
Pre dialysis-Heart Rate	78.91 \pm 4.931
Intra dialysis- Heart Rate	78.69 \pm 4.766
Post dialysis- Heart Rate	78.26 \pm 5.687

Table 6: Frequencies, percentage, mean and SD of Level of Patients' Satisfaction with Care in Hemodialysis units among Maintenance Hemodialysis (MHD) Patients

Level of Patients' Satisfaction	N=70		
	f	%	Mean \pm SD
Satisfied	47	67.1	73.79 \pm 2.904
Partially Satisfied	20	28.6	64.1 \pm 6.496
Not Satisfied	03	04.3	35 \pm 2.646

Mean \pm SD of Overall Patients' Satisfaction score was 69.36 \pm 9.49

Maximum Score-90

Minimum Score-30

Table 7 .Mean and SD of Level of Patients' Satisfaction with Care according to subcomponents of Patient's Satisfaction among Maintenance Hemodialysis (MHD) Patients

Sub Components of Patient's Satisfaction	N=70	
	Score Range	Mean \pm SD
Direct Nursing Care	7-21	16.53 \pm 3.892
Safe Environment	5-15	11.71 \pm 2.415
Collaboration	5-15	11.54 \pm 1.733
Therapeutic Communication	5-15	11.17 \pm 1.667
Ethics	5-15	11.16 \pm 1.69
Documentation	3-9	7.24 \pm 1.083

Maximum Score-90 Minimum Score-30

Table 8: Association of Patients' Satisfaction related to Care with Socio-Demographic profile among Maintenance Hemodialysis (MHD) Patients

Socio-Demographic Profile	Patients' Satisfaction			χ^2
	Satisfied f(%)	Partially Satisfied f(%)	Not Satisfied f(%)	Statistics
Age(in years)				
18-36	08	08	00	7.981 df=6 p=.240 ^{NS}
36-54	14	06	02	
54-72	24	05	01	
>72	01	01	00	
Gender				
Male	27	17	03	6.362 df=2 p=.042 ^{NS}
Female	20	03	00	
Marital Status				
Married	45	15	03	7.057 df=2 p=.029 ^{NS}
Unmarried/Single	02	05	00	
Divorced/Separated	00	00	00	
Widow/Widower	00	00	00	
Religion				
Hindu	19	06	02	3.755 df=8 p=.879 ^{NS}
Sikh	24	13	01	
Christian	01	01	00	
Muslim	02	00	00	
Any other	01	00	00	
Habitat				
Rural	13	08	00	2.361 df=2 p=.307 ^{NS}
Urban	34	12	03	
Educational Status				
Illiterate	04	03	00	6.437 df=8 p=.598 ^{NS}
Elementary	18	06	00	
Secondary	14	04	02	
Senior secondary	06	03	00	
Graduate and above	05	04	01	
Occupation				
Working	31	12	01	1.383 df=2 p=.501 ^{NS}
Non-working	16	08	02	

Table 9. Association of Patients' Satisfaction related to Care with selected Clinical profile among Maintenance Hemodialysis (MHD) Patients

Clinical Profile	Patients' Satisfaction			χ^2
	Satisfied f(%)	Partially Satisfied f(%)	Not Satisfied f(%)	Statistics
Dialysis Vintage (<i>in months</i>)				
<12	27	14	01	10.223 df=8 p=.250 ^{NS}
12-24	11	05	01	
24-36	05	00	00	
36-48	02	00	01	
>48	02	01	00	
HbsAg status				
Reactive	03	00	00	1.534 df=2 p=.464 ^{NS}
Non-reactive	44	20	03	
HCV status				
Reactive	13	07	00	1.624 df=2 p=.444 ^{NS}
Non-reactive	34	13	03	
Frequency of dialysis in a week				
Once	12	07	01	1.294 df=4 p=.862 ^{NS}
Twice	30	12	02	
Thrice	05	01	00	
No of missed dialysis				
Never	44	15	03	7.079 df=6 p=.314 ^{NS}
Once	03	03	00	
Twice	00	01	00	
Thrice	00	01	00	
Hours of dialysis (<i>in hours</i>)				
2-4	41	19	03	1.288 df=2 p=.525 ^{NS}
>4	06	01	00	
Any post dialysis complications				
Yes	21	13	02	2.610 df=2 p=.271 ^{NS}
No	26	07	01	
Access type				
AV Fistula	31	15	01	7.783 df=4 p=.100 ^{NS}
Catheter	08	04	00	
Femoral	08	01	02	
Access related complications				
Yes	03	02	00	.518 df=2 p=.772 ^{NS}
No	44	18	03	
Comorbidities present				
Yes	37	17	02	.694 df=2 p=.707 ^{NS}
No	03	03	01	

Table 10 Association of Patients' Satisfaction related to Care with selected Clinical profile (Intra-dialytic Weight Gain and Serum Values of Sodium, Potassium and Urea) among Maintenance Hemodialysis (MHD) Patients

Clinical Profile	Patients' Satisfaction			χ^2 Statistics
	Satisfied f(%)	Partially Satisfied f(%)	Not Satisfied f(%)	
Intra-dialytic Weight Gain				
Desirable	29	15	00	6.367
Undesirable	18	05	03	df=2 p=.041 ^{NS}
Serum Sodium				
Desirable	25	13	02	.915
Undesirable	22	07	01	df=2 p=.633 ^{NS}
Serum Potassium				
Desirable	26	14	02	1.318
Undesirable	21	06	01	df=2 p=.517 ^{NS}
Serum Urea				
Desirable	03	01	01	3.282
Undesirable	44	19	02	df=2 p=.194 ^{NS}

Patients' Satisfaction with Care in Hemodialysis units among Maintenance Hemodialysis (MHD) Patients. Mean and SD of Patients' Satisfaction score for satisfied patients was 73.79+2.904. Mean and SD of Patients' Satisfaction score for partially satisfied patients was 64.1+6.496. Mean and SD of Patients' Satisfaction score for not satisfied patients was 35+2.646 and Mean and SD of overall Patients' Satisfaction score was on higher side i.e. 69.36+9.49. Table 7 depicts the Mean and SD of Level of Patients' Satisfaction with Care according to subcomponents of Patient's Satisfaction among Maintenance Hemodialysis (MHD) Patients. Table 8 depicts that there is no significant association of level of Patients' Satisfaction related to Care with various Socio-Demographic variables like age, gender, marital status, religion, habitat, educational status and occupation. Table 9 depicts that there is no significant association of level of Patients' Satisfaction related to Care with clinical variables like dialysis vintage in months, HbsAg status, HCV status, frequency of dialysis in a week, no of missed dialysis, hours of dialysis, any post dialysis complications, access type, access related complications and comorbidities present. Table 10 depicts that there is no significant association of level of Patients' Satisfaction related to Care with clinical variables like Intra-dialytic Weight Gain, serum sodium, potassium and urea.

DISCUSSION

The present study revealed that out of 70 Maintenance Hemodialysis (MHD) Patients, 47(67.1%) of maintenance hemodialysis patients were satisfied with the care, followed by 20(28.6%) of maintenance hemodialysis patients, who were partially satisfied and only 03(4.3%) of maintenance hemodialysis patients were not satisfied with the care. and Mean and SD of overall Patients' Satisfaction score was on higher side i.e. 69.36+9.49. A similar study was conducted by Ferentinou *et al.* (2016) to assess the satisfaction regarding care among patients on Hemodialysis from selected hospitals in Greek. The results revealed that 50.7% of patients were totally satisfied with care, 37.1% of patients were satisfied with care, 11.4% of patients were neither satisfied nor dissatisfied with care and only 0.8% of patients were dissatisfied with care in hemodialysis unit. The present study revealed that there is no significant association of level of Patients' Satisfaction related to Care with various Socio-Demographic and clinical variables. A cross-sectional prospective study was conducted by Domenick *et al.* (2018) to assess the association of Maintenance Hemodialysis

(MHD) Patient's satisfaction related to care with access type and it was revealed that there is a significant association of patient satisfaction with access type (p=.013)

Conclusion

The study concluded that, out of all Maintenance Hemodialysis (MHD) Patients, majority of maintenance hemodialysis patients were satisfied with the care in hemodialysis unit of Deep Kidney Care Centre, Model Town, Ludhiana, Punjab and overall Patients' Satisfaction score was on higher side.

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