

Assessment of Patients' Satisfaction with Care at Selected Governmental Dialysis Units in Addis Ababa, Ethiopia, 2018

Teshome Habte Wurjine^{1,*}, Semien Ketema Regasa²

¹Department of Nursing and Midwifery, College of Health Sciences, Addis Ababa University, Addis Ababa, Ethiopia

²Saint Paul Hospital Millennium Medical College, Addis Ababa, Ethiopia

Email address:

teshomehabte@aau.et.edu (T. H. Wurjine), teshomeh497@gmail.com (T. H. Wurjine), semien.ketema@yahoo.com (S. K. Regasa)

*Corresponding author

To cite this article:

Teshome Habte Wurjine, Semien Ketema Regasa. Assessment of Patients' Satisfaction with Care at Selected Governmental Dialysis Units in Addis Ababa, Ethiopia, 2018. *American Journal of Nursing Science*. Vol. 7, No. 6, 2018, pp. 202-209. doi: 10.11648/j.ajns.20180706.11

Received: September 3, 2018; **Accepted:** September 21, 2018; **Published:** October 22, 2018

Abstract: Background: Assessment of patient satisfaction is beneficial as an indicator of care values provided by health care workers. Patient satisfaction is examined as a significant and valid measure of efficiency in health care service. Objective: This study aimed to assess the patients' satisfaction with care at selected dialysis unit in Addis Ababa, Ethiopia. Methods: The study was conducted in the capital city of Ethiopia, Addis Ababa at selected three government tertiary hospitals because maintenance of hemo-dialysis procedure is provided in these hospitals. Study design: facility based cross-sectional quantitative and qualitative mixed study design were employed on patients undergoing maintenance of hemo-dialysis care. The data was collected in a three selected dialysis units using a census method applied for quantitative approach to determine sample size because of few members of source population and snow ball sampling for qualitative method. The study carried out from May to June 2018. Participants: A total of 115 patients treated in hemo-dialysis unit. The primary outcome was patient with hemodialysis care satisfaction with the overall care and secondary outcomes of individual aspect of hemodialysis care in patient experiences. Data collection & analysis procedure: Data was collected by structured pre tested questionnaire and in-depth interview and analyzed using Epi data and SPSS. Descriptive statistics, Bivariate and multivariate logistic regression analyses was undertaken. Result: A total of 113 participants were responding to questionnaire with response rate 98.3% from this 76(67.3%) were male. The overall satisfaction level was found to be 41.6%. Majority of the respondents (81.4%) were rated high nurses care on vascular access site and nurses advice on post dialysis results were rated very low (1.8%). The regression analysis shows that income, educational status, occupation and frequency of dialysis were predictors of the overall satisfaction score ($p < 0.05$). Strength and limitation: Applying mixed methods of quantitative data was supported by qualitative method could cross check one another. Whereas limitation of the study was in fact studies conducted so far in Ethiopia in this topic are very limited therefore scarcity of literature to compare the finding in Ethiopian context was inadequate. Conclusion & Recommendation: Only 41.6% participants were satisfied with the care provided in hemo-dialysis units. This shows that the level of patient satisfaction is severely deficient and recommended to work for the achievement of optimal health care outcome then subsequently increase patient satisfaction.

Keywords: Assessment, Patient Satisfaction, Care of Hemo-dialysis

1. Introduction

1.1. Background

Chronic kidney disease (CKD) is a progressive loss of renal function over a period of months or years. Severe CKD requires renal replacement therapy. This may be in the form of dialysis, and also renal transplantation [1]. Therefore since

Hemo-dialysis is a chronic and continuous care assessing patients satisfaction towards the care provided is very essential [2]. Patient satisfaction is becoming an emerging health policy all over the world. It is a key determinant of quality of care and an important component for-performance measurement [3-5]. It is very important aspect to evaluate health care outcome, so 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 [6-8].

Healthcare quality is an important issue in medical care particularly, regarding chronic conditions, like in the case of end-stage kidney disease [9, 10]. Satisfaction is combination of different factors and so as to achieve this targeted goal, it is necessary to organize various aspects of services such as nursing, medicine, support and various organizational sections [6, 11-12].

In this study, patient's satisfaction with the care provided in dialysis unit is defined as, the patient's opinion of the care and service received from all medical staff, supporting staff and the facility itself.

1.2. Statement of the Problem

Owing to the Chronicity of End Stage Renal disease (ESRD), dialysis patients can spend years of treatment in centers with extensive interaction with dialysis staffs. The increasing number of patients with end stage renal disease (ESRD) worldwide and also in Ethiopia has caused a substantial rise in the number of individuals receiving hemodialysis [6, 7]. Therefore assessment of satisfaction on hemodialysis patients is very essential.

Most recent studies focusing on quality of health care services provided specially for chronic patients, for recognizing the importance of patient satisfaction in assessing quality of medical care [13].

The enormous costs of treatment for chronic kidney disease lead to a large burden for the health care systems, particularly in developing countries. In contrast to quality of life, only few previous studies have addressed patient satisfaction with renal replacement therapy [6, 11, 14].

This is also major problem in Ethiopia where access for dialysis and care of the disease is extremely limited [15]. Hemo-dialysis affects the professional and psychological well-being of the patients and their social and economic status, resulting in a large number of psychological disorders. Most of patients on dialysis are troubled by the fact that they have poor nutrition, which is a major factor of poor quality of life because it increases the rate of morbidity and mortality. Patient satisfaction with care and caregivers is an important aspect of dialysis treatment [16-17]. Hence, patient satisfaction is a critical issue in our country as other world; as it affects patients' compliance to treatment and health outcome of patients on renal replacement therapy.

1.3. Significance of the Study

Patient satisfaction is considering as crucial part of indicator for the assessment of health care implementation program, while it affects in providing health service quality, client retention and clinical misconduct. Furthermore it may be a very effective indicator to measure the success of health care team especially in dialysis unit when dealing with chronic patients undergoing hemo-dialysis therapy and associated factors around the working environment are very important in designing and implementing interventions at

national and international levels. In addition this patient's satisfaction study can be a tool for learning by highlighting areas of weakness in order to overcome these obstacles via appropriate management decisions. The data can also serve as means of holding physicians and nurses accountable; and it can show that they have acceptable level of patient's satisfaction. So, the information obtained from this study will be useful for the health care workers who are working in the dialysis unit through identification and improving service quality and decision makers in planning, implementing and evaluating at various level of interventions related to improving the care given in dialysis set up. In addition to this, the information is used as base line data for other investigators.

Aim: to assess the patients' satisfaction with care in the dialysis unit.

Research Question: Are the patients satisfied with Care at dialysis unit?

2. Methods and Materials

2.1. Setting

There are thirteen governmental hospitals in the city, of which only three of them providing chronic hemo-dialysis service, Namely; Saint Paul Hospital Millennium Medical College, Zewditu Memorial Hospital and Menilik II hospital. Saint Paul Hospital Millennium Medical College has currently 33 dialysis machines providing chronic dialysis for more than eighty patients. Zewditu Memorial Hospital has six dialysis Machine and providing chronic dialysis for about twenty Patients. Menilik-II referral hospital has currently ten functioning machine and providing chronic dialysis for about nineteen patients an average of number of weekly admission. Each study hospitals have more than 100 beds that serve for about more than 5million people as referral centers.

2.2. Study Design, Period, and Area

An institution-based cross-sectional quantitative and qualitative mixed research approach was used to assess patients' satisfaction with care at dialysis units.

This study was conducted in selected three governmental hospitals dialysis units situated in Addis Ababa, Ethiopia from May to June 2018.

2.3. Sample Size Determination

A census method was used to determine sample size because of few numbers of source populations and Snow ball sampling method was used for qualitative research approach. The qualitative data was collected from knowledgeable person among the patients on maintenance hemodialysis after identifying them by information obtained from the staff nurses and head of the units. For qualitative study the number of participant was determined by saturation of the required data.

Inclusion criteria: age greater than 18 and less than 85

years, both sex, on maintenance hemo-dialysis therapy for at least one month and willing to participate in the study.

Exclusion criteria: Clinically diagnosed patient with mental retardation or dementia.

2.4. Data Collection Tools and Procedure

Data was collected using pretested structured questionnaires which adapted from literature [7, 13, 19] for quantitative approach. A socio demographic characteristics questions were developed by Principal Investigator from literature on patients' satisfaction on hemo-dialysis care. For this study Amharic version structured questions containing questionnaire was administered by interviewer nurses to the participants. Each questions on patients' satisfaction part was used a five-point Likert scale to measure participant responses; 1=very dissatisfied, 2=dissatisfied, 3=Neutral, 4=satisfied and 5=very satisfied. Twenty questions on level of patients' satisfaction was asked and scored. The lowest score was 29 and the highest one was 76. Then the total scores of the respondent added and divided for twenty to measure patients' satisfaction on five points Likert scale of measurement. Based on this assumption those participants scoring above three considered satisfied, where as those participants scoring three and below considered as dissatisfied.

In-depth interview was conducted using semi-structured interview via open ended question and different probing questions was used to get more information. The number of in-depth interview was depending on the saturation of information. The qualitative data was collected from knowledgeable person among the patients on maintenance hemodialysis after identifying them by information obtained from the staff nurses and head of the unit. Since the qualitative part is to support the quantitative one eight in-depth interview was under taken with the length of interview time 15 to 30 minutes. Two trained data collectors and one supervisor were participated in this study.

2.5. Operational Definitions

Maintenance hemo-dialysis: - those patients that have been dialyzed for one month and above.

Level of Satisfaction: -Satisfaction towards care, up on assessment of satisfaction on five Likert scale of measurement

Satisfied: those participants scoring >3.0

Dissatisfied: those participants were scoring ≤ 3.0 (those participant whose response is neutral considered dissatisfied). Neutral response might be from fear of expressing dissatisfaction [2].

2.6. Data Quality Assurance

The quality of data was ensured through training of data collectors and supervisor. For two data collectors (Diploma nurses) and one Bsc nurse training was given for three consecutive days. Regular supervision, immediate feedback and reviewing each of completed questionnaires in daily base

were under gone by principal investigator. Pretest was conducted on 5% of sample size at Tsigereda Dialysis Specialty Clinic two weeks before the actual data collection process. Based on the test result, some questionnaires were modified and clarities to the questionnaires were insured. The principal investigator was responsible for co-ordination and supervision of overall data collection process. Data collectors were follow three targeted consecutive visit in different days not to miss the eligible participant and to minimize non - response rate.

2.7. Data Processing and Analysis

Data was verified, coded and entered to EpiData Software version 3.1 and then exported and analyzed by SPSS version 24 Software. Simple descriptive statistics (mean and standard deviation) and used for quantitative variables and frequency with percentage distribution for categorized variables. Binary and multiple Logistic regressions were computed to evaluate the association. Those variables having significant association at bivariate level were entered in to multivariate regression to control the effect of confounding. Those variable having $p\text{-value} < 0.05$ will be considered having significant association.

Qualitative data which was obtained from an in-depth interview was transcribed by arranging the record according to forwarded questions and translated to English version. Then thematic data analysis as flexible and use full method to provide a rich and detail account of qualitative data was used.

2.8. Ethical Consideration

The proposal of the study was submitted to Addis Ababa university department of nursing for ethical approval; then after, official letter was received from Addis Ababa university administrative office to get permission and cooperation. Institutional Review Board and official letter was written to Addis Ababa health bureau and the data collection was started by giving an official letter to the concerned body of each hospital. The respondents were informed about the objective and purpose of the study and verbal consent was taken from each respondents. For qualitative part the participants were informed about recording their voice prior to undergoing in-depth interview. They also informed about their right of not participating in the study or withdrawing at any time. Confidentiality of the information was also assured.

3. Results

3.1. Socio-demographic Characteristics

A total of 115 participants enrolled in quantitative study, 113 of the participants were responding to questionnaire with a response rate of 98%. Out of the total study subject 76 (67.3%) were male as shown in table 1. 34 (30.1%) and 31 (27.4%) of the clients were in the age group of 30-29 and 18-29 years respectively with the mean age of 38.82, 14.34. Most of study participants educational level was college and

above and working in governmental institutions. Marital status 58(51.3%) were married and 48(42.5%) were single. Most of the participants were from Addis Ababa and Fistula

was the most commonly used vascular access for this study subjects.

Table 1. Distribution of Socio demographic and care characteristics of patients getting hemo-dialysis service at selected governmental hospitals of dialysis unit, Addis Ababa, Ethiopia, 2018 (n=113).

Variables	Categories	Frequency	N (%)	Mean	SD
Age in years	18-29	31	27.4		14.34
	30-29	34	30.1		
	40-49	19	16.8		
	>50	27	23.9		
Sex	Male	76	67.3		
	Female	37	32.7		
Marital Status	Single	48	42.5		
	Married	58	51.3		
	Divorced	5	4.4		
	Widowed	2	1.8		
Educational status	Illiterate	5	4.4		
	Primary	34	30.1		
	Secondary	27	23.9		
Residence	College and Above	47	41.6		
	Addis Ababa	83	73.5		
	Out of Addis Ababa	30	26.5		
Duration on dialysis	1-24 Months	76	67.3	23.05	22.74
	25-48 Months	25	22.1		
	49-72 Months	7	6.2		
	>72 Months	5	4.4		
Type of access	Catheter	29	25.7		
	Fistula	70	61.9		
	Graft	14	12.4		
Income per month	500-1500	47	41.6	2599.98	2005.57
	15001-2500	26	23		
	2501-3500	11	9.7		
	>3500	29	25.7		

3.2. Level of Patient Satisfaction with Dialysis Care

3.2.1. Overall Level of Satisfaction

This study reveals overall satisfaction was 47(41.6%). The Majority of the participants 66(58.4%) were not satisfied with over all care in dialysis units.

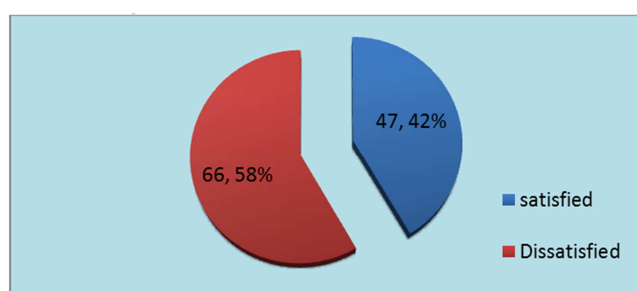


Figure 1. Satisfaction level with care provided in dialysis units of government hospitals in Ababa, Ethiopia, 2018 (n=113).

Participants within the age (30-39) and (8-29) are the most satisfied one 16(47.1%) and (42.4%) respectively. Male and unmarried participants were the most satisfied 33(43.4) and 24(50%) respectively. Regardless of educational status those at college level and above were most satisfied 29(61.7%). Governmental workers were the least satisfied, similarly participants with monthly income of 500-1500 were the least satisfied one 39(82.9%). On the other hand participants

residency out of Addis Ababa were more dissatisfied 23(76.7%). participants with long time (>72 months) since they have started dialysis were the least satisfied 5(100%). Also Participants with vascular access (graft) were the least satisfied 13(92.9). Participants with care giver being their child and those getting one dialysis session per week were least satisfied 12(75%) and 12(92.3%) respectively.

3.2.2. Satisfaction Levels with Likert Scale Items

The results on the Likert scale items reveals that the majority of the participants were satisfied with nurses dressing of access site, communication and nurses attitude with mean and SD of (3.76, 0.571), (3.63, 0.571) and (3.61, 0.674) respectively. Also most of the participants were satisfied with technical skills of nurses with mean and SD (3.55, 0.612), the way nurses responding to alarms (3.48, 0.757), the time of stay on dialysis machine (3.47, 0.78), the way nurses initiate dialysis machine (3.32, 0.710), the way nurses welcome to the unit (3.25, 0.969) and the way nurses administered post dialysis Medication (3.06, 0.759) as well.

In contrast to what the participants were pleased with, majority of them were dissatisfied with advice given on post dialysis results with mean and SD (1.62, 0.672), about payment for service (1.65, 0.799), physical examination prior to dialysis (1.65, 0.626), history of fluid and diet intake (2.21, 0.911), observation prior to dialysis (2.46, 0.955), complaint handling (2.4, 0.738), explanation for long waiting time(2.67,

0.829), availability and accessibility of the service (2.51, physician visit (2.98, 0.981). 0.745), the physical environment of the unit(2.93, 0.863) and

Table 2. Satisfaction levels with Likert Scale Items.

Questions	Very dissatisfied (N, %)	Dissatisfied (N, %)	Neutral (N, %)	Satisfied (N, %)	Very satisfied (N, %)	Mean and SD(+Or_-)
Satisfaction with the way nurses' welcome you to the Renal unit	3(2.7)	30(26.5)	19(16.8)	58(51.3)	3(2.7)	(3.25, 0.969)
Nurses explanation for long waiting time and delays	3(2.7)	54(47.8)	33(29.2)	23(20.4)	0(0)	(2.67, 0.829)
Handling of complaints regarding nursing services	8(7.1)	61(54.0)	35(31.0)	9(8.0)	0(0)	(2.4, 0.738)
Nurses' attitudes as they attend to dialysis	1(0.9)	9(8.0)	23(20.4)	80(70.8)	0(0)	(3.61, 0.674)
Nurses observation taken prior to dialysis	21(18.6)	35(31.0)	41(36.3)	16(14.2)	0(0)	(2.46, 0.955)
Nurses examination (physical)Prior to dialysis	49(43.4)	55(48.7)	9(8)	0(0)	0(0)	(1.65, 0.626)
History taking of previous dialysis and current history of water and diet intake	27(23.9)	45(39.8)	31(27.4)	10(8.8)	0(0)	(2.21, 0.911)
Nurses observation taken post dialysis prior to administering post dialysis medication	3(2.7)	20(17.7)	57(50.4)	33(29.2)	0(0)	(3.06, 0.759)
Nurses give advice in view of post dialysis results	53(46.9)	52(46.0)	6(5.3)	2(1.8)	0(0)	(1.62, 0.672)
Satisfaction with the way catheter site and wounds are dressed by nurses	2(1.8)	2(1.8)	17(15.0)	92(81.4)	0(0)	(3.76, 0.571)
Nurses response during technical hitch or alarm failure	2(1.8)	11(9.7)	32(28.3)	67(59.3)	1(0.9)	3.48, 0.757
Satisfaction with the way nurses initiate dialysis	1(0.9)	13(11.5)	48(42.5)	51(45.1)	0(0)	(3.32, 0.71)
Communication with the health care worker	1(0.9)	6(5.3)	27(23.9)	79(69.9)	0(0)	(3.63, 0.63)
Time spent with your Physicians	1(0.9)	40(35.4)	31(27.4)	41(36.3)	0(0)	(2.98, 0.891)
The stay on dialysis machine	2(1.8)	14(12.4)	26(23.0)	71(62.8)	0(0)	(3.47, 0.78)
The physical environment of the unit	2(1.8)	40(35.4)	35(31.0)	36(31.9)	0(0)	(2.93, 0.86)
Financial condition of the institution	60(53.1)	34(30.1)	17(15.0)	2(1.80)	0(0)	(1.65, 0.799)
Accessibility and convenience of service	8(7.1)	48(42.5)	48(42.5)	9(8.0)	0(0)	(2.51, 0.745)
Technical quality of nurses	0(0)	7(6.2)	37(32.7)	69(61.1)	0(0)	(3.55, 0.612)
Overall Satisfaction with service	3(2.7)	39(34.5)	51(45.1)	20(17.7)	0(0)	(2.78, 0.765)

3.3. Bivariate and Multivariate Analysis

Bivariate and multivariate logistic regression analysis was used to identify the characteristics that might affect participants' satisfaction for the overall quality health care. The variables that were used were first correlated with bivariate logistic regression and those that had a value of $P < 0.05$ were used for the multiple regression analysis as independent variables. These variables were educational status, residence, income and dialysis session per week.

Table 3. Results from bivariate and Multiple logistic regression analysis about patients satisfaction with care in dialysis unit, May, 2018 (n=113).

Factor	Category	Participants satisfaction		95% Confidence interval	
		Satisfied N (%)	Dissatisfied N (%)	COR	AOR
Educational status	Illiterate	1(20)	4(80)	1	
	Primary	10(29.4)	24(70.6)	1.667(0.165-16.827)*	
	Secondary	7(25.9)	20(74.1)	0.043(0.033-1.03)*	0.074(0.008-0.657)*
	College and above	29(61.7)	18(38.3)	6.444(2.083-14.743)*	
Income	500-1499	8(17.1)	39(82.9)	1	
	1500-2500	15(57.7%)	11(42.3)	8.025(8.263-25.08)**	6.128(1.567-23.963)**
	2501-3500	8(72.7%)	3(27.3)	20.262(1.867-48.219)**	18.529(2.354-45.831)**
	>3500	16(55.2%)	13(44.8)	6.444(0.667-62.3)*	
Residence	Addis Ababa	40(48.25)	43(51.8)	1	
	Out of Addis Ababa	7(23.3%)	23(76.7)	0.0351(0.023-1.482)*	0.427(0.135-1.346)*
Dialysis per week	1 day per week	1(7.7%)	12(92.3)	1	
	2 days per weeks	8(27.6%)	21(72.4)	2.541(1.08-12.08*	3.818(1.705-11.012)

COR=Crude odds ratio, AOR=Adjusted Odds ratio, *=p. value < 0.05 , **=p. value < 0.01 .

3.4. Factors Associated with Patients' Satisfaction

In bivariate logistic regression analysis; educational status, monthly income,

Occupation, residence, frequency of dialysis and type of access were statistically associated with parental satisfaction with p-value < 0.05 at 95% C.I. After bivariate analysis only those variables which were significantly related (p-value < 0.05) were entered for further multivariate logistic analysis.

After adjusting for potential Confounders in multivariate logistic regression analysis; most of variables which were significantly associated with patients' satisfaction by bivariate logistic analysis were significantly related with patients' satisfaction.

As illustrate in table above the participants having secondary level of education were less likely satisfied than the illiterates one and with overall satisfaction level of (AOR=0.074(0.008-0.657)*), Regarding income those

participants having monthly income of 1500-2500 birr(6.128 times more satisfied and those participants having monthly income 2500-3500 birr are (18.529 times more satisfied than the participants with monthly income of less than 500-1500 birr with (AOR=6.128(1.567-23.963)**) and 18.529(2.354-45.831)** respectively.

Another important factor which significantly associated with patients' satisfaction is the residence, participants living out of Addis Ababa is less likely satisfied as compared to those participants living in Addis Ababa with (AOR=0.427(0.135-1.346)*).

Frequency of dialysis is the other factor which significantly associated. Those participants having dialysis session three times per week is more likely satisfied than those having dialysis session one time per week (AOR=3.818(1.705-11.2010)).

3.5. Summary Results of Qualitative Data

The qualitative data was incorporated just to support quantitative data. Most the findings in qualitative data were supporting the quantitative one. A total of eight participants with age group of between 32 to 60 years old and duration of hemo-dialysis treatment received about 28 to 78 months were participated in the qualitative part of data. These participants in the in-depth interview reflected their feeling about seven area of concern. The first area of concern the participants were asked is about the general service provided in the unit. This was mainly on dialysis machines and other consumable materials which are equally important for patients on hemo-dialysis. The response on that, the majority of the participants replied were the number of machines available is not proportional to the patients and the consumable material is some time missing. This idea was supporting by a number of participants. The second area of concern that the participants were asked about nurses; regarding their duties, responsibilities, commitment, their communication with clients' skills and their behavior were most of (more than fifty percent) were reflected the nurses 'skill, communication and behavior "nurses skill were better than other health care professionals even if there were some gaps", this data is supporting the quantitative part.

The third area of concern was about the primary care physicians and Nephrologists. More than half of the participants were not pleased with the primary care physicians and all most all were dissatisfied nephrologists. This was reflected by opinion of the participants. The fourth area of concerns were about dieticians, biomedical engineers and supporting staff

Dieticians, Biomedical engineers and supporting staff like cleaners and runners are very important since medicine is a team work. The other area of concern that the participants in this interview asked were about handling of laboratory results. Most of the participants were not pleased with laboratory service, is that the sample is taken but the result is not appropriately kept with our chart or missing. They added that even the sample by itself can be missed.

The last but which was not the least was the payment paid

for hemo-dialysis and medications. Really! It was headache for each and every one of the participant in this survey. All the participants were very dissatisfied with payment and give their comment as follow.

All the participants in this interview replying that, most of the clients on dialysis are poor of the poorest hence the government should support the cost. If possible making dialysis care should be free charge.

In general, most the participant in the in-depth interview were not satisfied with the care provided by the health care professionals. There is an imperative need to communicate effectively with the patients about their disease and the treatment specially the largely ignored and the most efficient preventive aspect to allay their fears, remove misconceptions, comply with the treatment and develop confidence in the health system for achieving the standards of good health.

4. Discussion

The current study aimed to assess patient satisfaction in the care of dialysis unit of three selected governmental Hospital in Addis Ababa, Ethiopia. Improving level of clinical care can be achieved by using many strategies to ameliorate patients' satisfaction [7, 9]. Because dialysis therapy is very complex and requires multidisciplinary approach. therefore, assessment of patient satisfaction is very important to evaluate the healthcare outcome [11, 18]. Finding of the study reveal that, the overall proportion of participants who were satisfied with the dialysis care service was found to be 41.6%. This finding lower with study conducted in sauo polo, Brazil 53 % [12].

This finding also incongruent with study conducted in Kenya at renal unit of Kenyatta National hospital in which more than one half of study participants were satisfied [19]. This study is somewhat lower than study conducted in Egypt Beni-Suef University Hospital with findings 50% satisfied with the care provided in dialysis unit [7].

In contrast to this study finding study conducted in Iraq, at university of Baghdad there was high satisfaction with care [13].

The difference could be due to socio cultural, economic and health service quality. This might also attributed to study period difference due to the increase in expectation of patients to the service they are going to receive with rapid advancement in technology and peoples thinking. Even if greater percentage of overall satisfaction was reported in different literatures, there is a difference in satisfaction level in different aspects of focused health care.

The findings of this study like that of study conducted in Baghdad, Iraq indicated that there is moderate satisfaction to clinical nursing care, communication /patient -nurse relationship, technical quality of nurse and mild satisfaction toward nurses welcome to the unit, post dialysis medication administration, initiation of dialysis and stay on machine. Not statistical significant difference between (gender, age, religion, Ethnicity, marital status, type of vascular access duration of hemo-dialysis). While there is a statistical

significant difference between patients' educational status, frequency of hemodialysis and residence. The level of satisfaction with the provided care for vascular access and communication with the staff was rated higher (81.4%) and (69.9%) respectively among twenty items.

A large number of participants stated that they were barely informed or not informed at all about their post dialysis results or diagnostic tests, and their progress or advice on the result (92.2%) this finding is incomparable with a study done at Kenyatta National Hospital, in Kenya (47.7%). Also the observation and physical examination prior to dialysis reported low in this study finding 14% and 8 % respectively) as compared to the study conducted in Kenyatta National hospital, which is (43.2% and 50%) respectively[19].

In contrast to the study conducted in Beni Yusuf hospital, Egypt (64.6%) and Saupolo, Brazil (83%) the time spent with physician reported very low 36.1%. On the other hand the technical quality of nurses were reported high [61.1%] when compared to the study finding of Beni Yusuf Hospital Egypt [53%]. The punctuality of nurses in connecting the participants on dialysis machine is low (20%) as compared to the study conducted in Sao Paulo, Brazil (83%). This might be due to socio economic, the staff number and health service quality difference of the country.

Research points out patients' being very satisfied, as they feel safe while connected to the device (50.6%), and understanding the importance of lab tests, 40.7% said they were aware [12].

In contrast to international survey conducted in four countries (Argentina, Hungary, Poland and Portugal) age has no significant association, however similar to this study residence or the distance from dialysis center has a significant association with patients' satisfaction $p=0.026$ [2].

Strengths and Limitations of the Study

Strength

Applying mixed methods (quantitative data was supported by using qualitative or in-depth interview) could cross check one another. The study is based on a large multinational survey of patients with chronic kidney failure needing treatment with long-term dialysis. There were no specific exclusions other than patient incapable to communicate and mentally incapable to respond interview.

Limitations

The fact that studies conducted so far in Ethiopia in this topic is very limited therefore scarcity of literature to compare the finding in Ethiopian context were inadequate. The responses of the patients depend upon their personality and their perceptions. Some may be satisfied with average services while others may be dissatisfied with even the best.

5. Conclusions and Recommendations

5.1. Conclusion

This study has shown that the participants have lower levels of satisfaction concerning the care given in dialysis unit. It has to be strongly stressed that there is a great need

for clinical practices, regarding the care provided in dialysis units in order to optimize the hospital care for dialysis clients. There is quite differences between nurses' care and physicians' visit to fulfill clients needs was identified. All most all the participants had a complaint on regular physician visit for their need which needs further investigations for the reason. Again this study finding reveals the most common cause of dissatisfaction was the payment for the service and the advice given following the investigation results. Hence the clinician should focus on this area to overcome the problem that repeatedly raised and cause the clients to feel unhappy.

The value of assessing clients satisfaction is increasingly important and necessary because' satisfaction can be used as an indicator of the quality of health services that is experienced by clients.

5.2. Recommendations

- (1) Administrators, practitioners and evaluators of health care service of the hospital should give attention to enhance the level of customers' satisfaction.
- (2) The hospital administrator should improve the accessibility of services, like having dialysis machine that is proportional to the clients seeking the service including consumable materials for dialysis, investigations modalities and laboratory instruments, pharmacies.,
- (3) Reducing patient waiting time to obtain healthcare services by increase the proportion of health care providers and all others supporting staffs with the number of customers so as to make maximum utilization of their services and in turn to benefit the clients.
- (4) The government and all other concerned bodies (Stakeholders) should emphasis on the means of support or way to subsidize the costs for dialysis up to making for free.
- (5) As the dialysis is a lifelong treatment unless kidney transplants done and each client connected to dialysis machine for minimum of twelve hours per week hence, the clients should be reassured.
- (6) Great emphasize should be directed toward the educational aspects at hemo dialysis unit by providing educational posters, guidelines, pamphlets and manuals and it is provided modern educational nursing team at hem-dialysis enhance health education.

Conflict of Interest

All the authors do not have any possible conflict of interests.

Funding

Funding for this study was made possible through grants offered by Addis Ababa University post graduate office (None declared).

Authors' Contributions

The paper is the result of joint research, the contribution of every author is comparable to the others.

Acknowledgements

The authors would like to acknowledge to Addis Ababa University, College of Health Sciences, Department of Nursing and Midwifery for its financial and technical support. We are very indebted our gratitude to Arsi zonal health Bureau for granting us permission to conduct the study.

Provenance and Peer Review

Not commissioned; externally peer reviewed.

Data Sharing Statement

No additional data are available.

References

- [1] Takagi M. Attitudes toward restored kidney transplantation among dialysis patients: responses to a questionnaire. *American International Journal of Contemporary Research*. 2013; 3(4).
- [2] Woldeyohanes TR, Woldehaimanot TE, Kerie MW, Mengistie MA, Yesuf EA. Perceived patient satisfaction with in-patient services at Jimma University Specialized Hospital, Southwest Ethiopia. *BMC research notes*. 2015; 8(1):285.
- [3] Haile Eyasu K, Adane AA, Amdie FZ, Getahun TB, Biwota MA. Adult Patients' Satisfaction with Inpatient Nursing Care and Associated Factors in an Ethiopian Referral Hospital, Northeast, Ethiopia. *Advances in Nursing*. 2016; 2016.
- [4] Nathan R, Samuel T, Fatoba, Jason L, Jennifer A, Christopher A, et al. Global Prevalence of Chronic Kidney Disease – A Systematic Review and Meta-Analysis. *open access journal* 2016;11(7).
- [5] Patients' Satisfaction and its determinants in Outpatient Department of Debreberhan Referral Hospital, North Shoa, Ethiopia. *Int J Econ Manag Sci*. 2014; 3(191):2.
- [6] Rojas JN. Hemodialysis Patient Care in Renal Dialysis Unit among Selected Hospitals in the Sultanate of Oman 2017; 6(2).
- [7] Magda Bayoumi HAEG, Abeer Ahmed Patients' Satisfaction with Care at Dialysis Unit *International Journal of Nursing Science* 2016; 6(5):117-22.
- [8] [8]Sanabria-Arenas M, Tobón-Marín J, Certuche-Quintana MC, Sánchez-Pedraza R. Validation of an instrument for measuring satisfaction of patients undergoing hemodialysis. *BMC health services research*. 2017; 17(1):321.
- [9] Gedefaw M, Setargie F, Awoke W. Satisfaction of Chronic Illness Patients at Felege Hiwot Referral Hospital, Bahir Dar City, Northwest Ethiopia. *Open Journal of Epidemiology*. 2014; 4(04):217.
- [10] Ammo MA, Abu-Shaheen AK, Kobrosly S, Al-Tannir MA. Determinants of patient satisfaction at tertiary care centers in Lebanon. *Open Journal of Nursing*. 2014; 4(13):939.
- [11] Palmer SC, et al. Patient satisfaction with in-centre haemodialysis care: an international survey *BMJ Open* doi: 101136/bmj open-2014-005020 PMID: PMC4039823 2014 4(5).
- [12] Claudia Bernardi Cesarino RdCHMR, Isanne Carolina Pantaleão Cintra Lima, Daniela Comelis Bertolin, Daniele F. Evaro Ribeiro, Ana Maria Silveira Rodrigues. Evaluation of satisfaction in patients with chronic renal disease on hemodialysis. *Acta Paul Enferm*. 2009; 22: 519-23.
- [13] Ali T. Shnishil KAM. Assessment of Patients' Satisfaction toward Nursing Care at Hemodialysis units Iraqi *National Journal of Nursing Specialties* 2013; 26(1).
- [14] Shnishil A, Mansour K. Assessment of Patients' Satisfaction Toward Nursing Care at Hemodialysis Units. *Iraqi National Journal of Nursing Specialties*. 2013; 26(1):1-9.
- [15] Shibiru T, Gudina EK, Habte B, Deribew A, Agonafer T. Survival patterns of patients on maintenance hemodialysis for end stage renal disease in Ethiopia: summary of 91 cases. *BMC nephrology*. 2013; 14(1):127.
- [16] Stavroula G. concerns of patients on dialysis: a research study. *Health Science Journal*. 2014.
- [17] S. M. Survival patterns of patients on maintenance hemodialysis for end stage renal disease in Ethiopia: summary of 91 cases. *BMC Nephrology*, 2013; 14.
- [18] M. AlEissa MA, M. Jondeby, A. Karkar, M. Barahmein, F. A. M. Shaheen, and A. AlSayyari. Factors Affecting Hemodialysis Patients' Satisfaction with Their Dialysis Therapy. *International Journal of Nephrology* Volume 2010.
- [19] Ndambuki J. The level of patients' satisfaction and perception on quality of nursing services in the Renal unit, Kenyatta National Hospital Nairobi, Kenya *Open Journal of Nursing*, 2013, 186-194 2013;3:186-94.