

ORIGINAL RESEARCH

Staff Nurses' Perception of the Hemodialysis Unit as Practice Environment and Patients' Perception of Nurse Caring Behaviors and their Level of Satisfaction

<https://doi.org/10.37719/jhcs.2020.v2i1.0a001>

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Abstract

Background: Despite the concomitant rise of kidney diseases and hemodialysis services nationwide, the Philippines still lacks research on hemodialysis nursing care quality. Using nursing-sensitive indicators under the Nursing Role Effectiveness Model, this study aimed to describe hemodialysis nurses' perception of their unit as practice environment; patients' perception of nurse caring behaviors based on Jean Watson's 10 Caritas Processes; patients' level of satisfaction on nursing care; and determine the association between perceived nurse caring behaviors and satisfaction levels.

Methodology: This descriptive cross-sectional study purposely selected seven free-standing hemodialysis centers in Metro Manila. Ninety-four nurses were surveyed via complete enumeration using the Practice Environment Scale of Nursing Work Index (PES-NWI) while 345 randomly selected patients answered the Caring Factor Survey-Tagalog (CFS-T) and Patient Satisfaction of Nursing Care Quality Questionnaire-Tagalog (PSNCQQ-T). Pearson's correlation was used to analyze the gathered data.

Results: The study revealed that nurses perceived their respective work unit as a favorable practice environment while hemodialysis patients perceived nurse caring behaviors as practiced to a great extent and their satisfaction with nursing care as very good. The study also revealed a significant positive correlation between the process and outcome indicators ($r=0.64$, $p<0.0001$).

Conclusion: The study reflected positive nursing-sensitive indicators in hemodialysis. However, hemodialysis facilities should improve nurse staffing, spiritual nurse caring behavior, and facilitate a more healing environment while maintaining their current favorable qualities.

Keywords: *Hemodialysis nursing care quality, nursing-sensitive indicators, practice environment, nurse caring behaviors, patient satisfaction*

Introduction

Hemodialysis is the most common and preferred therapeutic approach for end-stage renal disease among most countries (United States Renal Data System [USRDS], 2016; Stavropoulou et al., 2017). In 2016, Philhealth (2017) reported hemodialysis as having the most filed health claims among procedures totaling up to more than 8 billion pesos, reflecting its substantial use among Filipinos. In hemodialysis, there is prolonged and repeated nurse-patient interaction, usually thrice weekly with four hours each session, throughout the patients' renal condition (Stavropoulou et al., 2017). This distinctively allows nurses to care for and positively impact their patients with chronic, and often debilitating, kidney disease. However, despite growing renal cases up to 15% annually and increasing numbers of hemodialysis facilities (Philippines News Agency [PNA], 2019), there are only select studies on hemodialysis nursing quality and its indicators (Thomas-Hawkins et al., 2008) and less so in the Philippines.

In 1996, the American Nurses Association (ANA) coined "nursing-sensitive indicators" (NSIs) based on Donabedian's Model of Quality Care (consisting of structure-process-outcome) to capture care and patient-related outcomes most affected by nursing care (Heslop & Lu, 2014). In 1998, the Nursing Role Effectiveness Model (NREM) further described the nursing practice in relation to their healthcare roles, and linked patient outcomes to nurses' role functions as a way of examining nursing contribution within the healthcare system (Doran et al., 2002; Doran, 2002).

NREM identifies the structure as nurse, patient, and/or unit/environmental factors that influence the processes and outcomes of healthcare. Focusing on unit factors, these are practice setting variables that influence the nurses' ability to engage in effective role performance (Doran, 2002). The practice/work environment as structure indicator reflects organizational characteristics of a work setting that facilitate or constrain professional nursing practice (Lake & Friese, 2006). There are a few numbers of research focused on the hemodialysis work environment compared to other specializations (Thomas-Hawkins et al., 2003; Burston et al., 2013) and results vary whether the hemodialysis unit is favorable (Thomas-Hawkins et al., 2003) or stressful and constraining (Ashker et al., 2012; Ross et al., 2009; Thomas-Hawkins et al., 2008). For this study, structure is defined as staff nurses' perception of the hemodialysis unit as practice environment.

The next indicator, process, reflects nursing intervention and practice which impacts patient outcome (Heslop & Lu, 2014). In NREM, process reflects what nurses do, with, or on behalf of patients that leads to health improvement under three distinct roles: the independent (autonomous nurse functions); interdependent (responsibilities shared with other healthcare team members); and dependent role (implementation of medical orders and treatments) (Doran, 2002). As hemodialysis nurses are endowed with much independent and autonomous functions essential to the unit—taking on flexible roles, having specialist knowledge, and often working with limited medical input that provides them an enhanced scope of practice (Gomez et al., 2011), this study defines process based on the independent role of hemodialysis nurses and this is measured using the 10 Caritas Processes.

Dr. Jean Watson's Theory of Human Caring postulates that nurse caring involves a range of knowledge, skills, and expertise that encompass holism, empathy, communication, clinical competence, technical proficiency, and interpersonal skills to potentiate therapeutic healing processes and relationships (Nelson & Watson, 2011). These are substantiated into the 10 Caritas Processes or behaviors by which nurses in a caring role must be able to perform (Watson, 2006). In conjunction, NREM views the independent role as inherent to nursing care wherein nurses are held fully accountable and that nursing care holistically encompass physiological, physical, psychological, social, and spiritual aspects of health (Sidani et al., 2004). This study, therefore, sees process as an independent role and describes it as hemodialysis patients' perception of nurse caring behaviors based on the 10 Caritas Processes.

Lastly, NREM refers to outcomes as directly attributed to process or care interventions (Doran, 2002). To view if the nursing process has achieved merit, this study examines patient satisfaction, an indicator specifically associated with the independent nursing role (Irvine et al., 1998). Satisfaction refers to one's affective judgment rounded by his/her perceptions of quality (LaVela & Gallan, 2014) and answers whether one's standards and level of contentment has been met (Devkaran, 2014). There have been differences in satisfaction among hemodialysis patients, for example, in Shnishil & Mansour's (2013) work there was high satisfaction in clinical nursing care and nurse-patient relationship but moderate satisfaction in health education, meanwhile in Bayoumi and colleagues' (2016) study, there were unsatisfactory results and a need to improve nursing communication and interpersonal relationship with patients. Though satisfaction is expected to correlate positively to nurse caring behaviors (Nelson & Watson, 2011), it is also possible to have high satisfaction despite negative experience and vice-versa (Devkaran, 2014) prompting this study to see if it occurs among hemodialysis patients as well. Aside from measuring patients' satisfaction with nursing care, this study also tests for correlation between the process and outcome indicators.

Nursing-sensitive indicators reflect healthcare delivery and patient outcomes and are helpful in quality improvement purposes (Heslop & Lu, 2014; Burston et al., 2013). Due to fewer NSI use in hemodialysis versus other units (Burston et al., 2013) especially among Filipinos, use of NREM in hemodialysis also lacked relevant studies. Using NREM as framework, this study aims to contribute to the existing database by describing the hemodialysis practice environment, perceived nursing

care, and patient satisfaction as reflectors of quality nursing care among selected hemodialysis facilities in Metro Manila.

Methods

Study Design and Sample

This study utilized a descriptive cross-sectional design to collect data across different hemodialysis centers at a given period. Only free-standing/outpatient centers were included to promote a homogenous population. The researcher conveniently invited 16 centers across Metro Manila but only seven centers all located in Quezon City consented to participate. Nurses with at least 3-month experience in hemodialysis who worked with patients daily, and were regularly paid employees were invited. This was to provide sufficiency of their experience in perceiving the unit as a practice environment, to limit variation in their caring abilities, and to consider the training period common among hemodialysis facilities. Three months of continuous hemodialysis care is also an acceptable cut-off period to delineate patient perception of nursing care and their level of satisfaction (Richardson et al., 2015). Complete enumeration of nurses was done to answer for the small population expected in each unit. Ninety-four out of 97 total nurses participated in the study with an attrition rate of 3.1%.

For patient respondents, sampling size calculation was first done. Assuming 80% of patients who perceived above-average nurse caring behaviors had good satisfaction (Shnishil & Mansour, 2013), and it is hypothesized that 65% of patients who perceived below-average nurse caring behavior had good satisfaction, with an alpha error of 5%, effect size of 15%, power of 90%, and a one-tailed alternative hypothesis, the sample size required is 300 patients for two groups. Adding an attrition rate of 20%, final sample size required 375 patients. Stratified random sampling with proportional allocation was then performed among the seven participating centers.

Hemodialysis patients were selected on the following criteria: at least 18 years old; with ESRD; has regular hemodialysis sessions from the same unit for the past three months; and hemodynamically stable and of good mental capacity/comprehension. Any instability requiring emergency care excluded potential respondents. The study also allowed patients who were elderly/seniors (≥ 60 years old); terminally-ill; and/or those with physical disabilities who were willing and able to participate. To facilitate participation, the researcher allowed presence of an authorized representative/primary caregiver in the signing of consent; provided documents in large clear fonts; and allowed assistance from representative/caregiver or researcher in filling out forms given that patients fully made the answers. In the end, 345 patients out of 375 completed the study with an attrition rate of 8.0%.

Instrumentation

Nurse respondents answered the Practice Environment Scale of Nursing Work Index (PES-NWI) which measured the quality of the nursing practice environment (Lake, 2002). It contained 31 items under five subscales, answerable in 10-15 minutes, and rated on a scale of 1 (strongly disagree) to 4 (strongly agree) indicating whether the descriptor was present in their current job. The presence of 4-5 subscales above a 2.5 rating indicated a favorable environment; 2-3 subscales with >2.5 indicated a mixed environment; and ≤ 1 subscale with >2.5 indicated a poor/unfavorable environment (Lake & Friese, 2006). Reliability analysis among Filipino nurses showed an acceptable Cronbach's α coefficient ($\alpha=0.89$) (Barandino & Soriano, 2019).

Patients answered the 10-item Caring Factor Survey by Dinapoli et al. (2010) (Tagalog version) or CFS-T to assess their perceptions of received nursing care as a loving consciousness towards them as a whole person (Persky et al., 2011a). Items were rated 1 (strongly disagree) to 7 (strongly agree) and the higher the score, the more evidence of care/caritas meaning that patients viewed the more caring nurses as those who had honored their individual wholeness and unity of mind-body-spirit (Persky et al., 2011b). Mean scores for the respondents were quantitatively interpreted as follows: (6.14-7.00) very great extent; (5.28-6.13) great extent; (4.41-5.27) above average extent; (3.54-4.40) average extent; (2.67-3.53) below average extent; (1.81-2.66) low extent; and (0.94-1.80) very low extent that the Caritas Process was used by the nurse. The tool yielded a reliable Cronbach's alpha of 0.85.

Patients also answered the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) by Laschinger and colleagues (2005) (Tagalog version) or PSNCQQ-T. This contained 19 main items which measured patient satisfaction with nursing care, plus 4 additional questions for overall care, well-being, and intent to recommend. The items were answered in 10-15 minutes and rated 1 (poor) to 5 (excellent). Scores for the main items were averaged to yield a single value for each respondent. Reliability analysis showed equally high reliability of $\alpha=0.96$.

To facilitate comprehension of patients, the Commission on the Filipino Language or "Komisyon sa Wikang Filipino" (KWF) which is the official regulating body of the Filipino language for developing, preserving, and promoting the local language (Komisyon sa Wikang Filipino, 1991) was approached for Tagalog translation of patient questionnaires resulting to the CFS-T and PSNCQQ-T versions. Internal pilot test of both tools among 30 hemodialysis patients showed that translation was clear and could be easily understood by the participants.

Data Collection Procedures

Prior to implementation, the study underwent panel review; obtained permission to use the instruments from their corresponding authors, and secured an ethics approval (RIHS ERC Code: 0590/E/G/18/101). The researcher also secured written approval from the hemodialysis centers'

medical director and/or nurse managers in accordance to their unit protocol. As permitted, the researcher conducted poster/flyer dissemination and a face-to-face invitation of patients which included screening of their eligibility. During implementation, the researcher fully explained the consent and data collection procedures to eligible participants following the guidelines stated above. For nurses, tools were provided at the start of shift which was submitted any time before their shift ends. For patients, tools were provided at their own convenience or time preference (between mid-dialysis or after hemodialysis in the unit's lobby or designated area). Anonymity and confidentiality were maintained for both groups. The study gifted tokens (free pen and socks) for complete participation.

Data Analysis

Collected data were initially entered into Microsoft Excel for descriptive analysis and presentation. For statistical analysis, Pearson's correlation coefficient tested for the magnitude and direction of association between the process and outcome indicators using the tallied means. Data was computed using IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.

Result

Demographic Profiles

A majority of hemodialysis nurses were young (≤ 30 years old) (58.5%), female (70.2%) and single (80.9%) during data collection. Nearly 90% had certification in BLS and ACLS, but only 14.9% were Certified Nephrology Nurses. Most had formal hemodialysis training (95.7%). The average length of experience hemodialysis nurses had in their current unit was a little over two years, similar with their total length of experience as hemodialysis nurses (Table 1).

Table 1. Demographic profile of Hemodialysis Nurses (n=94)

Demographic Profiles	Nurses n (%)
Gender	
Male	27 (28.7)
Female	66 (70.2)
Age	
Mean (SD)	29.59 (4.25)
Civil Status	
Single	76 (80.9)
Married	17 (18.1)
Living with common-law partner	1 (1.1)
Educational Attainment	
Bachelor's Degree	92 (97.9)
Master's Degree	2 (2.1)

Demographic Profiles	Nurses n (%)
Certification*	
Basic Life Support (BLS) and Cardiopulmonary Resuscitation (CPR)	83 (88.3)
Advanced Cardiac Life Support (ACLS)	84 (89.4)
Pediatric Advanced Life Support (PALS)	2 (2.1)
Intravenous Therapy (IVT)	73 (77.7)
Certified Nephrology Nurse - from Renal Nurses Association of the Philippines (RENAP)	14 (14.9)
With formal hemodialysis training with units/certification	
Yes	90 (95.7)
Length of training	
≤1 month	15 (16.7)
1 mo. 1 day – 3 mo.	56 (62.2)
>3 mo.	11 (12.2)
No answer	8 (8.9)
No	4 (4.3)
Length of experience in current hemodialysis unit (in months)	
Mean (SD)	25.1 (22.3)
Total length of experience as hemodialysis nurse (in months)	
Mean (SD)	31.9 (25.0)

*multiple response items

For hemodialysis patients, they were mostly middle-aged (41-50 years old) (26.4%) married (61.6%) men (56.5%) who graduated with a Bachelor's degree (47.2%) and were unemployed during data collection (69.9%). 40% of patients have been having hemodialysis for the past 1-3 years, with 61.2% having twice weekly sessions. Co-morbid hypertension (69.6%) was also evident, followed by diabetes (35.7%). Vision difficulties and ambulation problems were, likewise, reported (35.1% and 32.5%, respectively), and 51.3% had some form of assistance with answering the survey.

Table 2. Demographic profile of Hemodialysis Patients (n=345)

Demographic Profiles	Patients n (%)
Gender	
Male	195 (56.5)
Female	150 (43.5)
Age	
Mean (SD)	49.87 (13.17)
Civil Status	
Single	83 (24.1)
Married	209 (60.6)
Living with common-law partner	14 (4.1)
Widowed	29 (8.4)

Demographic Profiles	Patients n (%)
Separated/Annulled	8 (2.3)
Employment Status	
Working	103 (29.9)
Non-working	241 (69.9)
Educational Attainment	
Did not finish primary school	3 (0.9)
Primary education	27 (7.8)
Secondary education	123 (35.7)
Bachelor's Degree	163 (47.2)
Postgraduate	13 (3.8)
Technical/Vocational	15 (4.3)
Co-morbidities*	
Hypertension	240 (69.6)
Diabetes	123 (35.7)
Heart disease	76 (22.0)
Lung disease	6 (1.7)
History of stroke	38 (11.0)
Cancer	4 (1.2)
Hepatitis B	12 (3.5)
Hepatitis C	4 (1.2)
Duration of hemodialysis experience in current hemodialysis unit	
< 12 mo.	91 (26.4)
12-36 mo.	138 (40.0)
36-60 mo.	49 (14.2)
> 60 mo.	62 (18.0)
No answer	5 (1.4)
Hemodialysis frequency per week	
Once (including alternate once-twice)	4 (1.2)
Twice (including alternate twice-thrice)	211 (61.2)
Thrice	128 (37.1)
No answer	2 (0.5)
Difficulty/ies*	
Hearing	20 (5.8)
Sight	121 (35.1)
Memory	48 (13.9)
Walking/ambulation	112 (32.5)
Others (i.e. breathing, cramps, joint pain, speech)	8 (2.3)

*multiple response items

Structure: Staff Nurses' Perception of the Hemodialysis Unit as Practice Environment

Overall, hemodialysis nurses reported their units as favorable environments (93.6%) or facilitative to their practice of quality nursing. Among the five subscales found in a workplace (Table 3), the subscale nurse-physician relations were rated highest ($M=3.45$) which involved a positive working relationship, teamwork, and collaboration among nurses and physicians. On the other hand,

the lowest subscale was staffing and resource adequacy ($M=2.97$) wherein, out of all 31 items, nurses also rated the lowest having enough RNs to provide quality patient care ($M=2.84$).

Table 3. Structure Indicator: Qualities Present in a Hemodialysis Unit as Perceived by Hemodialysis Nurses

Subscale	Structure: Practice Environment Characteristic/Quality	Mean \pm SD
1	Nurse participation in dialysis provider affairs	3.22 \pm 0.60
2	Nursing foundations for quality of care	3.27 \pm 0.64
3	Nurse manager ability, leadership and support of nurses	3.38 \pm 0.62
4	Staffing and resource adequacy	2.97 \pm 0.71
5	Collegial nurse-physician relations	3.45 \pm 0.57

Process: Hemodialysis Patients' Perception of Nurse Caring Behaviors

Using Watson's Theory of Human Caring as the basis for nurse caring behaviors, overall patient perception of the 10 Caritas Processes has been rated to a great extent ($M=5.80$), with majority rating so (46.7%) and only 0.3% having very low perception. The patients also had high appreciation for their nurses' loving-kindness ($M=6.29$) but had diminished recognition of nurses' spiritual care ($M=4.78$) (Table 4).

Outcome: Hemodialysis Patients' Level of Satisfaction with Nursing Care

Patients were satisfied with the nursing services provided ($M=3.83$) where 50.4% had very good levels and only 2.9% had fair to poor satisfaction scores. Out of the 19 items they were most satisfied with hemodialysis nurses' caring attitudes ($M=4.1$) but least pleased with the presence of a quiet and restful atmosphere in the unit ($M=3.56$) (Table 4).

Table 4. Results for Process and Outcome Indicators

	Mean \pm SD	Interpretation
Process: Overall patients' perception of nurse caring behaviors based on the 10 Caritas Processes	5.80 \pm 1.25	Great extent
Highest: Everyday that I am here, care is provided with loving kindness	6.29 \pm 0.87	Very great extent
Lowest: Nurses encouraged practice of individual spiritual beliefs as part of caring and healing	4.78 \pm 1.60	Above average extent
Outcome: Overall patient satisfaction with nursing care	3.83 \pm 0.92	Very good
Highest: Concern and caring attitudes by nurses	4.1 \pm 0.84	Very good
Lowest: Restful atmosphere provided by nurses	3.56 \pm 0.92	Very good

Process and Outcome: Correlation between Patient Perception of Nurse Caring Behaviors and their Levels of Satisfaction

Statistical analysis utilized Pearson's correlation to test for the magnitude and direction of association between the process and outcome indicators. The product showed a strong, positive correlation between the two ($r=0.64$) indicating that as patient perception of nurse caring behaviors increases or improves, their level of satisfaction increases proportionately; and this is statistically significant ($p<0.0001$) (Table 5).

Table 5. Relationship between Process (Perceived Nurse Caring Behaviors) and Outcome (Patient Satisfaction with Nursing Care)

r Coefficient	p Value	Interpretation
0.6438	<0.0001	Significant

*p value is significant at 0.05 level

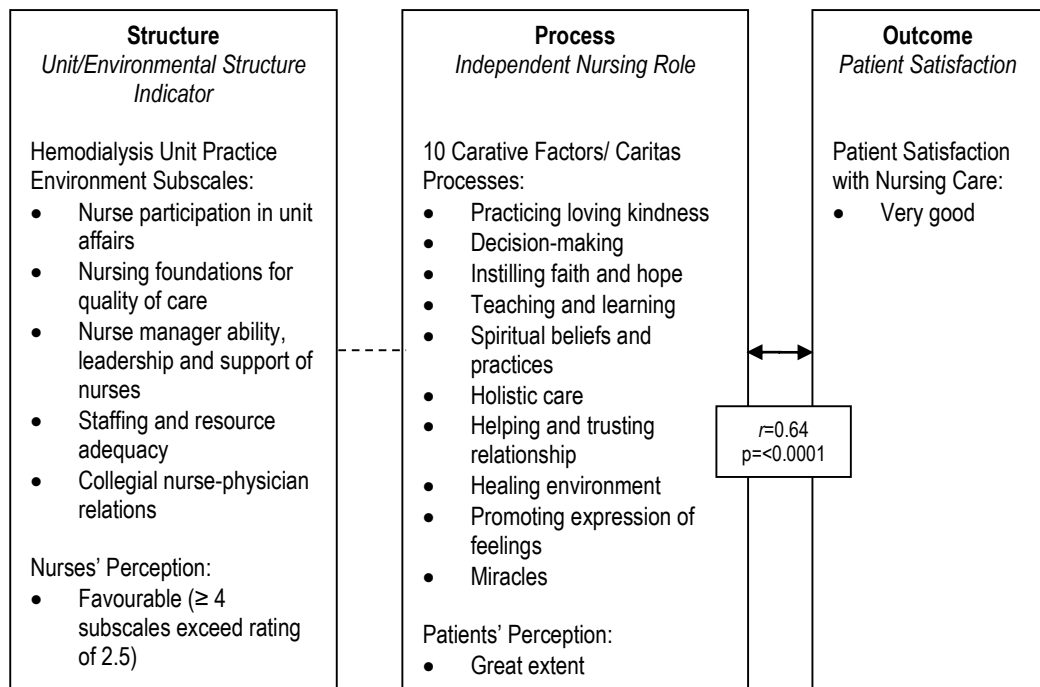


Figure 1. Framework used in this study and their results

Discussion

The goal of this study was to gain an understanding of the quality of hemodialysis nursing, a fast-growing healthcare service in the Philippines and worldwide, by describing its quality indicators sensitive to nursing. The findings showed that hemodialysis nurses perceived their units as favorable

practice environments with at least four organizational qualities that provide a favorable workplace and facilitate quality nursing practice. The results deviate but not fully negate prior research where the hemodialysis unit was found stressful and intense (Ashker et al., 2012; Ross et al., 2009). A good work perception among nurses continues to be important due to its association with positive job experiences, fewer concerns with quality of care, better intention to stay, lower burnout levels, and significantly lower patient mortality and rescue rates (Gardner et al., 2007; Aiken et al., 2008).

Comparing the environment subscales, collegial nurse-physician relations with the highest score reflects a professional practice environment consistent with previous findings (Gardner et al., 2007; Thomas-Hawkins et al., 2003). On the contrary, staffing and resource adequacy with the lowest score mirrors the findings of Barandino and Soriano (2019) contributing to workload stress and acting as the first cause of nurses' negative perceptions of the hemodialysis work environment (Thomas-Hawkins et al., 2003, 2008). Assuming all hemodialysis units followed the prescribed 1 nurse-to-4 patient ratio (DOH, 2012), nurses still perceived a lack of staffing. Staffing problems and a heavy workload can lead to task-oriented care, nurse-perceived low-quality care, decreased job satisfaction (Hayes et al., 2015), and increase nurses' intent to leave their jobs (Gardner et al., 2007).

For the process indicator, most hemodialysis patients perceived nurses' caring behavior (based on the 10 Caritas Processes) to a great extent meaning that nurses had a profound engagement with patients and cared for them as a whole, including their physical, mental, and spiritual needs. This may be because in general nurses aim to provide quality care through compassionate service, value of life, and commitment to other people regardless of status (Anquillano-Carsola & Castro-Palaganas, 2016). Nurses' care and inclusion of patients' spiritual beliefs as part of healing, however, was the lowest-rated behavior partly due to its lack of clear definition and applicability to some patients. Patients may also interpret not receiving or noticing components that might have been considered as spiritual care (Leger et al., 2012). Regardless, spiritual care warrants nurses' greater attention as this has been effective among hemodialysis patients to overcome depression, anxiety, and stress (Musa et al., 2017). Consistent with Watson's Theory of Human Caring and inherent in the NREM independent nursing role, hemodialysis nurses must work toward the ability of incorporating holistic care with technical and clinical proficiency—going beyond tasks and nursing routine and caring for the whole person, including their spiritual health.

Majority of patients also had very good satisfaction ratings with received nursing care, similar to the findings of Ferentinou and colleagues' (2016) and Calong Calong and Soriano (2018). This implies that nursing care provided among the participating hemodialysis centers were able to meet patients' standards, expectations, and level of contentment. Individually, all items received very good satisfaction scores; however, provision of a restful atmosphere by nurses scored the lowest which may be influenced by conversations of surrounding nurses and/or primary caregivers and by the uninterrupted use of television or music players common among hemodialysis units. The focus must then be given as excessive noise can prevent patients' needed sleep or rest, impair detection of

patient and hemodialysis machine problems, and compromise communication among nurses (Prestes et al., 2015).

Statistical analysis displayed a significant positive correlation between process and outcome indicators, meaning that as patient perception of nurse caring behaviors increases, their level of satisfaction increases proportionately. This echoes Nelson and Watson's (2011) expectation of patient satisfaction associating positively with nurse caring perception, and with Palmer's cross-country evaluation (2014) where better dialysis care performance scores were associated with higher overall patient satisfaction. Devkaran (2014) stated, however, that a high satisfaction score may not always follow a positive experience or objective quality care, and vice-versa. When the study's process and outcome responses were grouped into excellent, good, and poor categories, three patients had poor perception of nurse caring behaviors but still had a good level of satisfaction. This deviance, although possible, is trivial in comparison to the rest of the findings.

The study also noted some limitations. First, the use of a mixed method instead of quantitative design may explain better the full range of feelings, values, and experiences with hemodialysis care. Second, the study did not test the association between structure and process/outcome indicators due to different participants groups where patients were not paired with nurses and instead responded based on the overall nursing care received. Third, this study did not test causal sequences as to how the outcomes were produced; hence, another design and statistics are needed to establish such facts. Lastly, patient-reported experiences and satisfaction measures may be limited as there is tendency to report approval of services due to acquiescence or social desirability bias that may result in false-high scores (Pearson et al., 1989). To minimize this, the study maintained anonymity and confidentiality of responses and respected patient preferences on how they wished to answer. Likewise, the researcher bore no involvement with any of the facilities nor partiality to the collected data. Researchers may consider these limitations in pursuing future studies surrounding hemodialysis nursing care quality.

Conclusion

The study reflected positive nursing-sensitive indicators in hemodialysis. Hemodialysis facilities have good and facilitative practice environments, and hemodialysis patients perceived nurses as caring and were satisfied with the care they received. However, improvements can still be made. It may be beneficial to address staffing needs in hemodialysis units, to consider the physical aspects of care such as promoting a restful atmosphere for patients and to expand nurses' abilities in providing spiritual care. Facility administrators and nurse managers play both active and supportive roles in the improvement of these areas.

Conflict of Interest

The author have no conflict of interest to disclose.

Acknowledgement

The author would like to express her sincerest gratitude to Dr. Jonathan Cura for his guidance, wisdom, and encouragement. Special thanks also to the hemodialysis facilities for their participation in the study, and to Mr. Johnny Koon for his full active support.

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