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Implementation of Palliative Care for Interprofessional Dialysis Team: Advance Care Planning Communication Training

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Advance Care Planning Communication Training

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Abstract

Palliative care (PC) has become the need of the dialysis population to expedite emotional support, symptom management, and decision-making related to end-of-life situations (Sturgill & Bear, 2019). Under the spectrum of PC, advance care planning (ACP) is essential. The benefits of ACP conversations are largely confirmed in general healthcare (Rietjens et. al, 2017). Utilizing existing interprofessional dialysis teams to deliver the primary level of kidney PC is the most promising way to improve dialysis patients' quality of life. (Lam et al., 2019; Pfeifer & Head, 2018). The purpose of this project is to provide ACP communication skills training for the interprofessional dialysis teams and evaluate its effectiveness and feasibility by assessing responses of pre-training, post-training, and one month after training. A total of 20 interprofessional dialysis team members answered the pre/post survey, and 14 of them responded to the follow-up survey. There was statistical significance in the increase of self-confidence in ACP communication skills after the training ($t(19) = -6.750$, $p < 0.001$) and the scores maintained after one month ($t(13) = 1.028$, $p = 0.323$). The study also identified increased awareness of the dialysis care team's role in PC as well as positive findings of utilizing ACP communication skills.

Keywords: Kidney palliative care; advance care planning; communication training; interprofessional dialysis team

Introduction

In the United States, the number of end-stage renal disease (ESRD) cases has continued to rise. In 2017, more than 700,000 patients had ESRD with about 470,000 patients undergoing hemodialysis (United States Renal Data System [USRDS], 2020). Over the last few years, the dialysis population has witnessed not only growth, but overwhelming mortality rates, because the rates become higher as age increases, particularly among individuals aged 65 years and older (USRDS, 2020). With about 4 to 5 years of median survival, people remaining on dialysis suffer from poor quality of life, physical and emotional symptoms, and experience high rates of hospitalization (Lam et al., 2019; Scherer et al., 2017).

Palliative care (PC) can expedite emotional support, symptom management, and decision-making related to the end-of-life situations of patients. For these reasons, PC has quickly become the need of every specialty (Hughes & Smith, 2014). Although integration of PC in nephrology has been less explored than in other specialties, there have been efforts to introduce kidney palliative care (KPC) in outpatient settings such as dialysis units or nephrology offices (Hughes & Smith, 2014; Lam et al., 2019; Scherer et al., 2017). Given the shortage of PC specialists, the role of primary PC, or generalist PC, has come to fore so that patients' basic needs for PC, nephrology included, can be met (Aristoli et al., 2019; Hughes & Smith, 2014; Lam et al., 2019; Scherer et al., 2017).

Under the spectrum of PC, advance care planning (ACP) is essential. ACP is a process of communication between individuals, families, and healthcare professionals to understand, discuss, and plan future healthcare decisions in the event that an individual loses the ability to do so (Weathers et al., 2016). Benefits of ACP conversations are largely confirmed in general healthcare, and the initiation and involvement of ACP conversations is a reasonable starting

point for primary PC (Rietjens et. al, 2017). Most importantly, utilizing existing interprofessional dialysis teams to deliver primary level of kidney PC is the most promising way to improve ESRD patients' quality of life. (Lam et al., 2019; Pfeifer & Head, 2018).

Due to the complexity and the sensitivity of the agenda, ACP conversations do not occur unless the process is required. O'Halloran et al. (2018) examined multifaceted barriers and asserted that staff training should be addressed as the first step to implement an embedded team approach in dialysis centers. Robust PC communication and ACP conversation trainings have been attempted in several specialties, so as in nephrology (Anderson et al., 2018; Center to Advance Palliative Care, n.d.; Feely et al., 2016; Mandel et al., 2017; Song et al., 2015; Vitaltalk, n.d.). However, such communication training has rarely been applied to interprofessional dialysis teams, and little is known about its effectiveness and feasibility.

Purpose of the Project

The purpose of this project is to provide ACP communication skills' training for the interprofessional dialysis teams. The aim is to evaluate the effectiveness and feasibility of the training by assessing changes in: 1) self-confidence levels of ACP communication skills, 2) perceived roles of dialysis teams in offering PC and ACP, and 3) perceived behavioral control of using new communication skills between pre-training, post-training, and one month after training.

Background/Review of Literature

Integration of PC and Nephrology

World Health Organization (WHO) defines PC as:

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the

prevention and relief of suffering by means of early identification and impeccable

assessment and treatment of pain and other problems, physical, psychosocial and spiritual

(WHO, n.d.)

Sturgill and Bear (2019) reviewed unique PC needs of patients with ESRD and stated that

the dialysis population has changed from a healthy single-disease population of patients to a

population with many other chronic diseases. Not only that, despite the unpredictable prognosis

of ESRD, only 20% of patients with ESRD use hospice service compared to 55% of patients

with cancer and 39% of patients with heart failure (Watcherman et al., 2018). Hence, Sturgill and

Bear (2019) strongly recommended developing a new model of palliative nephrology. A

participatory action research study was done by Scherer et al. (2018). They developed a model of

care, aiming to achieve patient-centered care through provision of integrated outpatient renal and

PC. In their study, stakeholders consist of nephrologists, social workers, nurse practitioners,

nurses, and office support staff. Going through individual meetings, phone meetings, group

meetings, and electronic mails, their proposed model of care successfully adapted and integrated

an Australian outpatient KPC program to an outpatient nephrology practice in New York City.

The model includes: 1) manage physical and emotional symptoms of serious kidney disease, 2)

facilitate shared decision-making, concerning dialysis decision-making and advance care

planning, 3) collaborate with the primary nephrologist to care for conservative management

patients, and 4) work with community providers to allow for smooth transitions of care,

particularly for the end-of-life situations. These four concepts encompass patient-centered care

concept in the model. Similarly, Lam et al. (2019) also proposed conceptual framework of KPC.

First model they suggested is "embedded KPC" where PC access exists within a nephrology

clinic (e.g., the Kidney Comprehensive Advanced Renal Disease and ESKD Support Program at

New York University) or provides KPC alongside routine nephrology care (e.g., the Renal Supportive Care Clinic at the University of Pittsburgh). Second model is "Mobile/Home-based KPC" that can address barriers of access to outpatient PC, the burden of clinic visit, and the need to involve family members outside of a clinic setting (e.g., the Mobile Renal Supportive Care program at Northwest Kidney Centers). Illustrating these models, they outlined the key steps to create a KPC change: 1) involve creating a diverse stakeholder group, 2) build a team, and 3) define the organizational vision for KPC. The primary PC concept was continuously discovered throughout myriad literature reviews, and a consensus was using an interprofessional dialysis team to implement the primary PC (Artioli et al., 2019; Feely et al., 2016; Hughes & Smith, 2014; Lam et al., 2019; Scherer et al., 2017; Sturgill & Bear, 2019).

ACP and ESRD

Establishing ACP is imperative across the continuum of PC. The recent COVID-19 has raised urgent needs of ACP as experts claimed. (Block et al., 2020; Roland & Markus, 2020; Selman et al., 2020). ACP was conceptualized as the filing advance directive and used mainly in oncology. However, ACP has been increasingly considered as a comprehensive process, embracing personal reflection and discussion with clinicians about patients' wishes, the appointment with healthcare representative, the completion of an advance directive, and the changes to the healthcare system (Rietjens et al., 2017). Shudore et al. (2017) came up with a consensus of ACP using a multidisciplinary Delphi panel, "Advance care planning is a process that supports adults at any age or stage of health in understanding and sharing their personal values, life goals, and preferences regarding future medical care." Being the first ACP definition using Delphi methodology, this work suggested the essential guidance for clinical interventions, research studies, and policy initiatives of ACP.

A systemic review done by O'Halloran et al. (2018), analyzed 38 research studies to synthesize the model for the implementation of ACP with ESRD patients. The steps of the model include: 1) training clinical staff and having them gain confidence, 2) starting ACP discussion, 3) implement ACP documentation, and 4) greater congruence of patient and surrogate preference, and increased quality of communication. Lim et al. (2016) also conducted rigorous systematic review and found that patients' satisfaction was high with the quality of communication, and ACP did not cause unnecessary discomfort. They also identified that lack of physician action to initiate and guide ACP conversation. Song et al. (2015) performed a randomized controlled trial (RCT), and compared an ACP intervention (Sharing Patient's Illness Representations to Increase Trust [SPIRIT]) to usual care without ACP. Total participants for the trial were 420 (210 dyads of prevalent dialysis patients and their surrogates) from 20 dialysis centers, and every dyad received usual care. Those assigned to SPIRIT had an in-depth ACP discussion with follow-up session at home 2 weeks later. After 12 months, dyad congruence (OR, 1.89; 95% CI, 1.1-3.3), surrogate decision-making confidence ($\beta = 0.13$; 95% CI, 0.01-0.24), and the composite (OR 1.82; 95% CI, 1.0-3.2) were better in the intervention group (SPIRIT) than controls, but patient decisional conflict did not have any differences ($\beta = -0.01$; 95% CI, -0.12 to 0.10). During the study, 45 patients died, and surrogates in SPIRIT had less anxiety, depression, and posttraumatic distress than controls. An extensive retrospective review found that dialysis patients who stayed in nursing homes for the last year of their lives had far less treatment-limiting directive or a surrogate decision-maker (47%) compared to other nursing home residents with cancer (59%), chronic obstructive pulmonary disease (COPD) (61%), and dementia (70%). The major finding after adjusting was that overall, the patients with a treatment-limiting directive and surrogate had lower rates of hospitalization (13%), ICU admission (17%), intensive procedure (13%), and

inpatient death (14%) (Kurella Tamura et al., 2017). These studies align with unaddressed ACP needs throughout the disease trajectory and suggest an importance of ACP in clinical practice.

For qualitative studies, the interview survey of Bristowe et al. (2015) is well-described. After interviewing 20 dialysis patients in the United Kingdom, exploring the experience of initiating dialysis, its impact on quality of life, and ACP needs, the researchers analyzed three themes (looking back, current experience, and looking ahead). They explained about the needs for a culture shift from "disease-focused" model to a "holistic care-based" approach, normalizing discussion about patients' preference about future care. Despite the demand for an opportunity to discuss patients' future, they responded that communicating with staff in the "conveyor belt" (447p) culture of dialysis units is challenging. Another identified challenge was that the staff avoid such sensitive conversation due to fear of causing distress. Similarly, Goff et al. (2015) conducted an interview study with 13 dialysis patients and nine family and friends. Responses about the preferences of patients themselves and their families for future care is noteworthy. They sought supporting information about the ACP at the primary care level and desired better communication regarding the care they preferred at the end of their life or altered options to meet their quality of life with their nephrologist and/or their dialysis team and especially the trained facilitators.

Needs of Communication Training

Such a demand is not just a one-way voice. Van Biesen et al. (2015) discussed the lack of protocols on the palliative care process and nephrologists' training on end-of-life care, based on their survey of international nephrologists. The survey results also noted that well-organized palliative training sessions were not available to improve nephrologists' approach to, and communication with, patients regarding poor prognoses. There have been studies in the same

context. Schell et al. (2013) observed that less than one third of fellows they studied were trained in communication regarding sensitive subjects, whereas the majority agreed that having these communication skills would be necessary.

Power of Interprofessional Team in PC

The importance of an interprofessional collaboration is well documented, especially in PC. National Consensus Project for Quality Palliative Care (2018) recommends interprofessional team-based PC service in the Clinical Practice Guidelines to maximize the quality of patients' care. A systemic review analyzed 31 studies and identified the expectations of physicians and other healthcare providers for providing primary PC for non-cancer patients (Oishi & Murtagh, 2014). Patients in the studies welcomed physicians' efforts to spend time with them and to understand their concerns. The importance of other healthcare providers, such as nurses, were recognized to enhance coordinated PC care. Barriers for an effective primary PC include the uncertain illness trajectory, the lack of communication between care providers, a lack of access to services for non-cancer patients, and time constraints for sufficient care (Oishi & Murtagh, 2014).

Pfeifer and Head (2018) also emphasized that the nature of PC requires multifaceted collaboration in the healthcare sector. Talking about end-of-life care and ACP takes a holistic care approach, as it touches patients' psychological, social, spiritual, and financial concerns. According to Pfeifer and Head (2018), ideally, an interprofessional team includes professionals from medicine, nursing, chaplaincy, and social work or similar fields. The role of each professional could be different depending on an organization, but an ACP conversation can be initiated by any team member, based on training level and readiness of a staff member. The KPC framework developed by Lam et al. (2019) follows the similar context of utilizing an

interprofessional team. The KPC model suggested examples of interprofessional nephrology

teams' roles. Nephrologists and advance practice providers (APP) provide their patients

prognosis of ESRD and guide treatment options. Nurses outreach symptom management using

typical skillset in conjunction with the nephrologist/APP. Social workers and psychologists

address psychological and emotional needs, and spiritual care providers can address spiritual

needs. Also, dieticians can involve plan of care discussion during diet consultation. (Lam et al.,

2019). This strategy can be successful by augmenting the existing team's capacity without

creating a new role or job.

PC/ACP Communication Training

To establish a practical interprofessional team approach, training the team about primary

PC and fundamental communication skills is paramount. Such trainings have been developed

earlier in oncology, mainly for physicians. For example, Oncotalk, the workshop for medical

oncology fellows, provided communication training, involving small group practices with

simulated patients to help clinicians when they would hold discussions with their patients.

Compared with pre-workshop standardized patient encounters, post-workshop encounters

showed that participants acquired a mean of 5.4 bad news skills ($P<.001$) and a mean of 4.4

transitions skills ($P<.001$) (Back et al., 2007). The measurable changes in communication skills

were also noted when the researchers conducted Codetalk. Amongst 145 trainees in the

workshop, their pre- and post-intervention scores improved in 8 of 11 coded behaviors ($p < 0.05$)

(Bays et al., 2014). Furthermore, the communication skills workshop for nephrology fellows,

Nephrotalk, has achieved success in improving preparedness for having difficult conversations

regarding dialysis decision-making and end-of-life care. After the Nephrotalk workshop, the

mean level of preparedness as measured with a five-point Likert scale significantly increased for

all skills amongst 19 responders (range, 0.5–1.14; P<0.01), including delivering bad news, expressing empathy, and discussing dialysis initiation and withdrawal (Schell et al., 2013). Vital Talk, a national healthcare organization, offers a variety of methods such as conducting workshops or online training programs to ensure learning about situation-specific communication skills and gaining confidence in palliative care communication (Vital Talk, n.d.).

PC communication skill trainings are also done for nurses. Integrating multidisciplinary palliative care into the ICU (IMPACT-ICU) is a communication skills training program that seeks to integrate PC into the ICU nurses by training and supporting bedside nurses. It proved its effectiveness in five University of California medical centers; 428 ICU bedside nurses in five University of California academic medical centers reported a high level of confidence and skill post-workshop, which was significantly greater than pre-workshop for all 15 evaluated communication tasks (p<0.001). These included: identifying a family's need for information about a patient's illness and treatments (36% vs. 70%), responding to family distress (31% vs. 61%), participating in family meetings (31% vs. 69%), describing palliative care consultation (20% vs. 65%), and self-care (24% vs. 66%) (Barbour et al., 2016). This program has been applied to neonatal intensive care unit (NICU) nurses at the University of Washington Medical Center, which structured around gathering a didactic phase, communication simulation phase, role plays, and storing resiliency in a one-day workshop style (J. Amory, personal communication, May 10, 2019).

Furthermore, the development and piloting of the REnal specific Advanced Communication Training (REACT) program was performed among renal professionals (Bristowe et al., 2016). Participants were nine renal nurses/health-care assistants and seven renal consultants in two UK teaching hospitals. The program was associated with a non-significant

increase in confidence in communicating about end-of-life issues (pre-training: 6.6/10, post-

training: 6.9/10, unpaired t-test P = 0.56) (Bristowe et al., 2014).

A pilot study done by Starks et al. (2018) is as meaningful as the PC curriculum for

interprofessional team practice. The study was established by the Palliative Care Training Center

with interprofessional faculty and staff at the University of Washington. The total 24 palliative

care clinicians included seven nurses, six nurse practitioners, six physicians, four social workers,

and a chaplain from 11 different institutions. After the nine-month long and extensive PC

curriculum, participants showed average learning gain of 50% across all domains with high

rating of contents (5.5/6, SD=0.7, P<.001) and described their practice changes (Starks et al.,

2018). Bhang and Iregui (2019) developed a unique visual model called the House Model for

easy application of essential tools for complex conversation. Using the model, the CORE HCG

founding, a consultant group specialized in PC communication training, has done PC

communication training for interpersonal professionals in the northwest region of the United

States, showing measurable self-confidence level changes amongst participants (Bhang & Iregui,

2019).

Conceptual Framework

The framework of this project is the theory of planned behavior (TPB). It was developed

by Ajzen (1991, 2012) to explain factors that determine an individual's behavioral intentions and

behaviors: beliefs about the likely outcomes of the behavior and the evaluations of these

outcomes (behavioral beliefs), beliefs about the normative expectations and actions of important

referents and motivation to comply with these referents (normative beliefs), and beliefs about the

presence of factors that may facilitate or impede performance of the behavior and the perceived

power of these factors (control beliefs). Ajzen states:

> Behavioral beliefs produce a favorable or unfavorable attitude toward the behavior,
>
> normative beliefs result in perceived social pressure or a subjective norm, and control
>
> beliefs give rise to perceived behavioral control. In combination, attitude toward the
>
> behavior, subjective norm, and perception of behavioral control lead to the formation of a
>
> behavioral intention (p. 18).

The TPB has been widely used and tested in the healthcare particularly when behaviors are not

observable. By measuring subjective matter such as one's intention to perform a behavior,

changes in health-related behaviors of individuals and practice-related behaviors of providers can

be assessed (Boyko et al., 2011). Generally, the more favorable the attitude and subjective norm,

and the greater the perceived control, the stronger should be the person's intention to perform the

behavior. Then, when the opportunity occurs, individuals are expected to carry out their

intentions (Ajzen, 2012).

Based on the TPB, it is critical to assess participants' intentions to adopt ACP

communication skills to measure effectiveness and feasibility of the training in this study

because the results of change in three factors (attitude, subjective norms, and perceived behavior

control) will represent how likely the participants are to use what they learned. First,

participants' attitude, such as confidence level, corresponds the behavior of interest in terms of

ACP communication skills. Second, subjective norms assume perceptions of what dialysis

organization or coworkers think each professional (nephrologist, nurse, social worker, or

dietician) should do in delivering PC. It directly links to a perceived role as a dialysis team.

Third, perceived behavioral control suggests the dialysis team's perceptions of how easy or hard

are the new skills to use. Aforementioned concepts of TPB followed throughout the development

of survey questions, seeking to reflect effectiveness, feasibility, and sustainability of the ACP

communication training.

Methodology

Institutional Review Board

Seattle University's institutional review board (IRB) has determined the study "Not

Human Subjects Research." IRB is also exempted at Northwest Kidney Centers (NKC).

Design

This is a quality improvement (QI) project to measure the effectiveness and feasibility of

the online ACP communication skills training.

Sample and Recruitment

Participants in the training were the interprofessional renal team members of three Seattle

area dialysis centers. The inclusion criteria were nephrologist, nurses, social worker, and

dieticians of in-center hemodialysis centers and home dialysis departments. The exclusion

criteria were new employees on training, dialysis technicians, and nurse managers. Using

convenience sampling, a total of 43 team members of three dialysis centers were invited via

work email (Appendix A). Participation in the online training and the online surveys was

voluntary. Written informed consents were in the body of the surveys (Appendix B & Appendix

C). A total of 20 dialysis team members participated in the training and the first survey, and 14

of them responded to the second survey.

Setting

The intervention took place via self-paced online module for dialysis care team of

Kirkland, Lake City, and Renton branches of Northwest Kidney Centers (NKC), a nonprofit

provider of dialysis in Washington State, the United States. Founded in 1962, NKC has provided

about 1,800 patients dialysis per year at 16 in-center hemodialysis centers and home dialysis

departments (NKC, 2020).

Measurement

To align with the theoretical framework, TPB, assessing three factors of change –

attitude, subjective norm, and perceived behavior control – should be considered because the

results will tell us how likely the participants are to use what they learned. First, changes of

attitude can be measured with changes in participants' self- confidence level. Second, subjective

norms are assessed by asking them what their perceived roles are in the dialysis team for

delivering PC. Third, question of perceived ease of new skills, can reflect their perceived

behavior control.

For the first survey (post training), self-confidence level assessment was included using

retrospective pre/posttest style to reflect changes before and after training. The questions were

developed to mirror the overall learning objectives. The included skill sets in the training were:

1) permission to begin conversations about advance care planning, 2) define the goals of advance

care planning conversations for the patient, 3) locate advance care planning in the future and

distinguish it from the present, and 4) recognize that advance care planning conversations inform

healthcare professional's understanding the patient's values and allow to explore the future with

the patient in a non-threatening way. Self-confidence level assessment of each domain was made

of a 4-point Likert scale (1=Not skilled/Uncomfortable, 2=Slightly skilled/Somewhat

uncomfortable, 3=Somewhat skilled/Somewhat comfortable, 4=Very skilled/Very comfortable).

The range of scores were from 4 to 16 with higher scores reflecting higher confidence level in

engaging complex communication of ACP with the patient. Also, one more question asking how

much likely they can use the skills they learned was added using Likert scale. The other open-ended question asked about perceived roles of NKC dialysis team in delivering PC was to assess the perception of dialysis team's norms (Appendix D).

With regards to the second survey (one-month follow-up survey), self-confidence level assessment of same contents from the first survey and two open-ended questions were included. Open-ended questions were about any changes of participants' practice since the training (Appendix E). All open-ended questions were designed per the concept of Francis et al. (2004) to follow the theory of planned behavior (TPB) framework (2004). All questions were reviewed by faculty members, palliative care experts, and leadership in the organization before being used. The format of retrospective self-confidence level survey was adopted from that of the CORE HCG founding group, a PC communication training consultant group, with permission to use.

**Table 1**

Development of Measurement

Aims: Evaluate effectiveness and feasibility of the training	Framework: Theory of planned behavior (TPB)	Measurement (Post survey and follow-up survey)
Changes in confidence	Concepts of behavioral attitude	Rate your perceived skill level before the training and what you anticipate it being after this training. "Talk with patients about their values and care preferences along the continuum of illness" 1:unskilled/not comfortable 4: very skilled/very comfortable
Role expectation as dialysis team	Concepts of subjective norms	"What is your perceived role in dialysis team for PC?" (post survey) "Any changes in your perception of role in dialysis team?" (Follow-up survey)
Application in practice	Concepts of perceived behavioral control	How do you think you can use this communication skills in your practice?" (post survey) "Have you used the communication skills? How easy/hard it was?" (Follow-up survey)

Procedures

Participants took the online module "Advanced Care Planning communication skills" in Center to Advanced Palliative Care (CAPC) website. CAPC is a national organization and provides healthcare professionals with trainings, tools, and technical assistance for PC. It is part of the Icahn School of Medicine at Mount Sinai, in New York City. NKC has purchased the membership of the CAPC training program until Jan 2021. After the training, online surveys were conducted using Seattle University Qualtrics. Participants received a 1-hour continuous education certification upon the ACP communication training completion (Figure 1). First survey was comprised of a retrospective pre-post self-confidence level assessment and an open-ended question. Second survey (follow-up survey) was conducted after one month after the training. It assessed self-confidence level and asked if there were any changes of participants' subjective norms in delivering PC and the use of ACP communication skills in their practice.

Figure 1

Study procedure
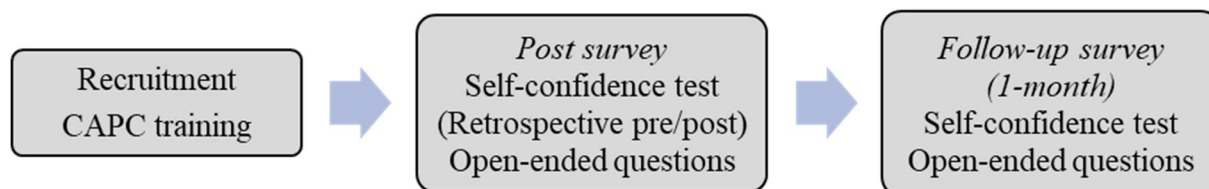
Data Analysis

The retrospective pre-posttest and follow-up test answers were collected via Qualtrics and transferred to Statistical Package for Social Sciences (SPSS) version 26. Self-confidence scores of each domain (total 4 domains) were analyzed using two sets of paired t-test. First paired t-test measured differences of pre and posttest scores, followed by second paired test to measure differences of post and follow-up test scores. A faculty statistician and a faculty mentor

were consulted regarding the method of data analysis. Descriptive statistics was used to analyze pre/posttest survey question "I think I can use what I leaned in my practice" and the one-month follow-up survey questions "Since the online training, have you used the communication skills with your dialysis patients?" and "If you have used the communication skills, how easy it was?"

Responses from open-ended questions "Please describe your perceived role as a dialysis team member in delivering palliative care" in pre-post survey, "Please describe if you have any changes in your perception of role as a dialysis team member in delivering palliative care" in follow-up survey, and "Any recommendations of improving quality of life in dialysis patients with palliative care?" in follow-up survey were analyzed by hand for themes.

Results

A total of 20 dialysis team members from nephrologists (n=2), nurses (n=13), social workers (n=3), and dieticians (n=2) responded to the survey after the online training. In the one-month follow-up survey, a total of 14 dialysis team members from nurses (n=9), social workers (n=3), and dietitians (n=2) responded.

Confidence

Increased means of self-confidence level scores were identified in all four domains of ACP communication skills as well as total scores. First set of paired samples t-test was conducted to compare means of self-confidence scores before the training and after the training (n=20). There was a significant difference in the scores for pre-test (M=7.55, SD=2.78) and post-test (M=11.85, SD= 2.03), t (19) = -6.750, p< 0.001 (Table 1). Statistics of self-confidence score change in each domain of four ACP communication skills are also illustrated in Table 2. Thus, there was statistical significance in the increase of self-confidence in ACP communication skills after CAPC palliative care communication training.

Second paired samples t-test was calculated to compare means of self-confidence scores between post-test and one-month follow-up test (n=14). The results revealed no significant differences in total self-confidence scores of post-test (M=12.214, SD=1.805) and the one-month follow-up test (M=11.571, SD=2.409), t (13) =1.028, p=0.323 (Table 3). This indicates there was no significant changes in self-confidence in ACP communication skills one month after the training. In other words, participants were able to maintain increased self-confidence at the similar level at least one month after the training.

Table 2

Paired Sample Statistics (Pre and Post)

	Pre		Post		Paired t-Test		
	M	*SD*	*M*	*SD*	t-value	df	p-value
Domain 1	2	0.649	2.95	0.51	-6.19	19	<.001
Domain 2	1.85	0.745	2.95	0.51	-6.242	19	<.001
Domain 3	1.75	0.851	3	0.562	-7.109	19	<.001
Domain 4	1.95	0.826	2.95	0.605	-4.595	19	<.001
Total	7.55	2.78	11.85	2.033	-6.750	19	<.001

Table 3

Paired Sample Statistics (Post and Follow-Up)

	Post		Follow-Up		Paired t-Test		
	M	*SD*	*M*	*SD*	t-value	df	p-value
Domain 1	3.07	0.475	2.93	0.73	0.806	13	.435
Domain 2	3.0	0.392	2.79	0.579	1.385	13	.189
Domain 3	3.14	0.535	2.86	0.864	1.295	13	.218
Domain 4	3.0	0.555	3.0	0.555	0.000	13	1.0
Total	12.214	1.805	11.571	2.409	1.028	13	.323

Subjective Norms

To assess subjective norms and any changes after the training, two questions were asked. First, fourteen respondents answered the question, "What is your perceived role as a dialysis

member in delivering PC?" in the post survey (n=20). Four of them simply identified their job

titles from the question. Analyzing ten respondents' responses, different perceived roles were

identified depending on the profession. Nephrologists and social workers recognized their roles

as "explaining patient's current status", "defining their goals", and "engaging ACP conversation

to discuss medical decision." Dietitians and nurses stated "referring to palliative care team" after

catching cues of a patient's willingness to talk about end of life care. The answers demonstrate

that nephrologists and social workers consider themselves more directive in PC, whereas nurses

and dieticians recognize themselves as supporters for seamless referral processes (Table 4).

Table 4

What is your perceived role in delivering PC?

MD	Explain, present and discuss regarding current medical prognosis, then carry on further conversation about patient's options
	Defining patient's goals when appropriate
SW	Engaging in ACP conversations, encouraging patients to discuss medical decisions with providers
RD	Refer to palliative care team
	Patients look to my role as a non-bias position
RN	Understanding patient's feeling and supporting their values
	Refer to social worker
	Picking up on change in patient's wishes, and getting nephrologist and social worker involved
	Provide support to contact palliative care team
	Nephrology nurses do not discuss PC with our patients. We have our admission team and social workers.

Another question about any changes of perceived roles after the training was asked in the

follow up survey (n=14), four respondents acknowledged their perceived role changes after the

training. One stated that the training "re-sparked the passion and has encouraged to discuss" PC

and ACP with other team members more often. Similarly, another participant noted the change in

perception after the training by "starting to focus on the emotion and feeling of the patients and

trying to support and advocate the patients." On the other hand, a social worker stated, "No change really. I have had these types of conversations with patients for years as a social worker, though I have learned some new ways of communicating palliative care information to patients through this program." Similarly, a dietician also implied that there was no difference in perception of their role after the training (Table 5).

Table 5

Any changes of perceived roles after the training?

Yes	Re-sparked my passion (SW)
	More ways to communicate and easy phrases that can help to make the communication more streamlined (SW)
	Able to approach to my patients more open (RN)
	Started focusing on patient's feeling and trying to support/advocate them (RN)
No	I have had these types of conversation for years (SW)
	Make sure patient's wishes are known regarding any nutrition issues, and support the patient if needed (RD)

Perceived Behavior Control

In the post survey after the training, 90% (n=18) of total respondents (n=20) answered "somewhat agree" or "strongly agree" that they think they can use what they learned in the training. Amongst respondents (n=14) in the one-month follow-up survey, 71% (n=10) of them stated they had the opportunity to use what they had learned from conversations with their dialysis patients. Of those who had used the communication skills with their dialysis patients, 80% (n=8) said it was somewhat easy to use and 20% (n=2) said it was very easy to use.

Discussion

This QI project is to evaluate the effectiveness of PC communication training in ACP conversation for the interprofessional dialysis team in NKC by measuring self-confidence levels, perceived roles, and perceived behavior controls. Overall, the study found positive outcomes in

regards to self-confidence and behavior controls. However, perceived roles in PC showed mixed responses depending on profession and experience.

Despite a small sample size, self-confidence level improvement was statistically significant after the training (t (19) = -6.75, p <0.001). In addition, participants' confidence levels maintained after one month of the training (t (13) = 1.028, p=0.323). These results indicate that the training is effective in guiding staff on how to initiate ACP conversation, help their patients to comprehend their ACP goals, assist the patients to distinguish ACP from present goals, and begin thinking with the patients about the future in a non-threatening way. The results also share consensus of prior research that identified considerable benefits of ACP or PC communication trainings for healthcare professionals (Barbour et al., 2016; Bristowe et al., 2014; Starks et al., 2018).

With regards to perceived roles of dialysis team in continuing PC, participants acknowledged their roles relevant to each profession. The KPC model of Lam et al. (2019) suggested similar role expectations of the interprofessional dialysis team. The responses to the open-ended questions revealed an increased awareness and desire in understanding patients' values and PC goals. Furthermore, one sole lesson of online training did not seem enough to change their perceived roles. As indicated in the responses, "more interactive trainings" and "setting aside time for the training" are needed for long-term change of subjective norms. Likewise, needs for PC and ACP communication trainings in the interprofessional renal team was congruent with the prior literature (Goff et al., 2015; O'Halloran et al., 2018; Schell et al., 2013; Scherer et al., 2017; Van Biesen et al., 2015)

Important aspects of perceived behavior control are willingness to use the new skills and how to easily apply them. 90% of the participants (n=18) considered the training useful in real

conversation with their patients, and half of total participants (n=10) were able to use what they

learned within one month after the training. Although it is an online format, the CAPC

communication skills training is designed similar to role-play which provides experiential

learning for participants. In addition, there are scripts and phrases for every situation in ACP

conversation training which played essential roles, resulting in favorable outcomes in utilization.

Two participants commented that they wished to have a printed version of the training so that

they can have it readily accessible. This response implicates increased perceived behavior

control in using APC communication skills amongst the learners. This author located a one-page

summary of "CAPC Online Course: Advance Care Planning Key Takeaways" in the website and

followed up with them.

This QI study found a statistical significance in the improvement of the interprofessional

dialysis team's confidence and a sustainable application into their practice in a short period.

However, it is expected to take continuous efforts to make overall changes of perceived roles in

the long run. For example, one participant mentioned that the training can be included in annual

staff in-service.

Limitation

Sampling method and sample size are the main limitations of this QI project. Convenient

sampling could bias outcomes and the responding rates were low. Thus, larger size of dialysis

staff sample is warranted across multiple branches in the organization to determine statistical

significance.

For the future QI project, the years of experience should be included in the survey as the

length of practice in one's profession impacts survey response. Also, self-reported confidence

level and a couple of open comment sections were insufficient in measuring the impact of the

training, as it was not possible to observe patient care within each learner's clinical practice.

Future work should evaluate the skills of dialysis staff with real dialysis patients and/or patient-

reported outcomes.

Conclusions and Implications for Practice

The implementation of an ACP communication skills training session at dialysis centers

is feasible and has a significant impact on participants' self-confidence. The study also identified

increased awareness of dialysis care team's role about PC as well as positive findings of utilizing

ACP communication skills. Therefore, it is recommended that ACP communication skills

training should be continued. Moreover, the communication skills training should be extended to

the level of primary PC so that an interprofessional dialysis team can carry on seamless PC

without difficulty.

To address unmet needs of PC with dialysis patients, interprofessional team-based efforts

are the most promising and innovative ways. PC communication training can improve dialysis

professionals' confidence when involved in an ACP conversation; it can encourage them to be

more responsible in delivering PC, help them to integrate PC and nephrology in their practice,

and ultimately entail better quality of life for dialysis patients.

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Appendix A

Invitation letter

Dear Colleagues,

I am Ju Choe, a Doctorate Nursing Practice student at Seattle University. I am writing to invite you to an online training module, Advanced Care Planning Communication Skills for the dialysis team. This training provides communication techniques and skills for Advanced Care Planning and goals of care for dialysis patients.

In comparison to cancer and heart failure, patients on dialysis have higher rates of morbidity and mortality in the last months of life. Along with emotional support, discussing End of Life decision is crucial for our dialysis patients, especially under the recent COVID-19 pandemic. We, the dialysis team, can prepare to engage in sensitive conversations, and this online module can be a great toolkit. The Center to Advance Palliative Care (CAPC) has offered valuable resources and tools to improve the quality of care for people living with serious illnesses. Please feel free to explore other resources in CAPC at your convenience.

Here are the details of the training program:

1. Go to capc.org

2. Create your account with NKC email. Membership has been purchased by NKC Renal Supportive Care team.

3. Click "Clinical training".

4. Go to "Communication skills"

5. You will see 5 modules: Please click "Advanced Care Planning Conversations"

Once you finish the course, you will be eligible for one-hour CE credit.

A post-survey and 1-minute follow-up survey will be sent to your work email. The survey will

be essential for the doctoral degree capstone project at Seattle University, College of Nursing.

If you need further information, do not hesitate to contact me at choeju@seattleu.edu. I am

grateful for your time and participation. I hope the training helps provide you with support for

the end of life conversations.

Thank you and kind regards,

Ju Choe, BSN, RN

Doctor of Nursing Practice student, Seattle University

Appendix B

Retrospective Pre-post survey

Please rate your perceived skill level before and after CAPC Advanced Care Planning (ACP)

communication skills training.

1-1. Before the training, I felt (   ) to elicit permission to begin conversations about advance
care planning.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

1-2. After the training, I feel (   ) to elicit permission to begin conversations about advance care
planning.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

2-1. Before the training, I felt (   ) to define the goals of advance care planning conversations
for the patient.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

2-2. After the training, I feel (   ) to define the goals of advance care planning conversations for
the patient.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

3-1. Before the training, I felt (   ) to locate advance care planning in the future and distinguish
it from the present.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

3-2. After the training, I feel (   ) to locate advance care planning in the future and distinguish
it from the present.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

4-1. Before the training, I felt (   ) to recognize that advance care planning conversations inform your understanding the patient's values and allow you to explore the future with the patient in a non-threatening way.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

4-2. After the training, I feel (   ) to recognize that advance care planning conversations inform your understanding the patient's values and allow you to explore the future with the patient in a non-threatening way.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

5. I think I can use what I learned in my practice.

   a. Yes

   b. No

6. Please describe your perceived role as a dialysis team member in delivering palliative care.

7. What is your role at Northwest Kidney Centers (NKC) ?

   a. Nephrologist

   b. Nurse

   c. Social worker

   d. Dietician

Appendix C

Follow-up survey

Please rate your perceived skill level about advanced care planning communication at this time.

1. Before the training, I felt (   ) to elicit permission to begin conversations about advance care planning.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

2. Before the training, I felt (   ) to define the goals of advance care planning conversations for the patient.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

3. Before the training, I felt (   ) to locate advance care planning in the future and distinguish it from the present.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

4. Before the training, I felt (   ) to recognize that advance care planning conversations inform your understanding the patient's values and allow you to explore the future with the patient in a non-threatening way.

Not skilled /Uncomfortable	Slightly skilled /Somewhat uncomfortable	Somewhat skilled /Somewhat comfortable	Very skilled /Very comfortable

5. Since the online training, have you used the communication skills with your dialysis patients?

    a. Yes

    b. No

6. If you have used the communication skills, how easy it was?

    a. Not easy at all

b. Somewhat easy

c. Very easy

d. I have not used the communication skills

7. Please describe if you have any changes in your perception of role as a dialysis team member in delivering palliative care.

8. Are there any other resource you wished you had?

9. Any recommendations for improving quality of life in dialysis patients with Palliative Care?

7. What is your role at Northwest Kidney Centers (NKC)?

a. Nephrologist

b. Nurse

c. Social worker

d. Dietician

Appendix D

Seattle University

Consent to Participate in Research

I am inviting you to participate in a research study "Implementing Palliative Care Communication Skills Training for Dialysis Team" that provides Advanced Care Planning communication skills training and evaluates its effectiveness.

These questions will ask about how confident you feel when talking to your patients regarding goals of care before and after the training, your perceived roles in renal palliative care, your thoughts about the training and tools that are offered, etc. The survey will take less than 15minutes. Participation in this survey is completely voluntary, and you may stop at any time without any consequences. I will not collect any direct identifiers for this study, but I will be asking your role in NKC. This information is necessary to analyze survey results in different professional roles.

You can skip any questions you don't want to answer, or stop the survey entirely. Whenever you provide information online, your data could be intercepted. We're using a secure system to collect this data, Qualtrics, but we can't completely eliminate this risk.

To minimize the risk of anyone seeing your data who shouldn't, we will make sure:

o Data is anonymous.

o I will remove all identifiers after December 2020.

o I will store all electronic data on the servers for the online survey software (Qualtrics) for 6

months.

This survey will help understanding the needs for communication skills training in Palliative

care, offering improved quality of life for dialysis patients, and establishing primary palliative

care in NKC.

Only I will have access to the information you provide as well as my faculty member. If I share

our findings in publications or presentations, the results will be de-identified. If I quote you, I'll

use pseudonyms (fake names).

If you have any questions about this research, contact Ju Choe "Lina", choeju@seattleu.edu. If

you have any questions about your rights as a research participant, contact the SU Institutional

Review Board at 206-296-2585 / irb@seattleu.edu

If you meet the eligibility criteria below and would like to participate in this study, click the

button to begin the survey. Remember, your participation is completely voluntary, and you're

free to withdraw at any time.

· I am at least 18 years old

· I am an interprofessional dialysis team member of Northwest Kidney Centers