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Peer mentoring : improving health outcomes in dialysis patients

Carey Haugen

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Peer Mentoring: Improving Health Outcomes in Dialysis Patients

by

Carey Haugen, MS, RN, AGCNS-BC

A DNP PROJECT

Submitted in partial fulfillment of the requirements for the
Degree of Doctor of Nursing Practice
to
The School of Graduate Studies
of
The University of Alabama in Huntsville

HUNTSVILLE, ALABAMA
2019

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Carey Hauger 10/19/2019

Student Signature Date

DNP PROJECT APPROVAL FORM

Submitted by Carey Haugen in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice and accepted on behalf of the Faculty of the School of Graduate Studies by the DNP project committee.

We, the undersigned members of the Graduate Faculty of The University of Alabama in Huntsville, certify that we have advised and/or supervised the candidate on the work described in this DNP project. We further certify that we have reviewed the DNP project manuscript and approve it in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice.

10/23/19 Azita Amiri Committee Chair
(Date)

Ellise D Adams DNP Program Coordinator

Karen Frith College of Nursing, Associate Dean for Graduate Studies

Marsha H. Adams College of Nursing, Dean

Graduate Dean

ABSTRACT

The School of Graduate Studies
The University of Alabama in Huntsville

Degree: Doctor of Nursing Practice College: Nursing

Name of Candidate: Carey Haugen

Title: Peer Mentoring: Improving Health Outcomes in Dialysis Patients

The lifestyle changes which accompany dialysis may be overwhelming for patients and their carers. The objective of this project was to adapt and implement a predesigned peer mentor program; to evaluate the effects of a peer mentor program on the quality of life (QOL), depression symptoms, and self-efficacy of the program participants; and to compare the effects with a comparison group. A two-armed, mixed-method, pre/post-intervention evaluation method was used to conduct this project. Data was collected from the Aurora Dialysis rural outpatient dialysis center. A predesigned peer mentor program was adapted and implemented. Participants, adult individuals with kidney disease that required dialysis, were selectred through convenience sampling method as a mentor, mentee, or comparison. The participants completed phone interactions, provided social support, shared lived experiences, and dialysis related self-care. Six mentors, six mentees, and 11 comparison participants completed the project. A paired samples t-test showed no statistically significant differences in self-efficacy, depression symptoms, nor QOL for mentors or mentees. The Anova test showed no statistically significant differences between the mentors and mentees with the comparison group. Feedback from 100% of mentors and 60% of mentees indicated high satisfaction and recommended the peer mentor program continue. Nursing support of the peer mentor program includes recruitment of appropriate mentors and answering clinical

questions to promote success and sustainability of the program. Peer mentoring has potential to provide non-hierarchial support and to cross cultural barriers. Additional research is needed to support health realted outcomes and peer mentoring in individuals requiring dialysis.

ACKNOWLEDGMENTS

I would like to acknowledge the contribution of Aurora Dialysis and all the individuals on hemodialysis for their participation. Thank you to Dr. Amiri, faculty chair, for all of her assistance and recommendations. I would also like to acknowledge Dr. Karen Semmens for her assistance and support of this project.

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Peer Mentoring: Improving Health Outcomes in Dialysis Patients

The development and progression of chronic kidney disease (CKD) is a major health concern. The Centers for Disease Control and Prevention (CDC) reports chronic disease remains the leading cause of "death and disability in the United States (US)" and nearly half of all adults have at least one chronic disease (2015). Currently, over 30 million Americans have CKD (CDC, 2015). Progression of CKD results in end-stage renal disease (ESRD). The National Institute of Health (NIH, 2016) defines ESRD as permanent kidney failure, which requires renal replacement therapy or kidney transplant. The incident of ESRD continues to rise since 2011 with 124,000 new cases annually with 99% over the age of 22 years (United States Renal Data System [USRDS], 2017). The prevalence of ESRD rises 20,000 cases annually (USRDS, 2017).

In 2015 there were over 700,000 cases of ESRD in the US (USRDS, 2017). In the US, with over 468,000 individuals (National Kidney Foundation, 2016), dialysis is the most common type of renal replacement therapy (USRDS, 2017). ESRD and dialysis place a substantial financial burden on society. Medicare spending for ESRD patients exceeded $30.9 billion in 2013, which is 7.1% of all Medicare claims (NIH, 2016). Dialysis patients are older and have more comorbidities than years past which compounds the health and financial issues surrounding ESRD and dialysis (Gilpin & Nichols, 2010; Perry et al., 2005).

The increasing incidence and prevalence rates of dialysis pose unique issues to nursing. This large patient population needs care, compassion, and education to self-manage their chronic disease. Most ESRD patients also have comorbid chronic health conditions of hypertension and diabetes (USRDS, 2017). Many physical and emotional life changes, including social and psychological challenges, accompany a diagnosis of ESRD with required dialysis or transplant (Morton, Tong, Howard, Snelling, & Webster, 2010; Shell, Patel, Ammarell, & Steinhauser, 2012; Tong et al., 2009). The use of available resources is necessary to promote positive health outcomes in this population. The purpose of this Doctor of Nursing Practice (DNP) project was to implement an adapted predesigned peer mentor quality improvement project and evaluate health outcomes in dialysis patients.

Identification of the Problem

The progression to ESRD requiring dialysis may be overwhelming for patients and their carers. Dialysis is a life-changing treatment plan requiring changes in lifestyle (Jankowska-Polanksa et al., 2016; Kaitelidou et al., 2005) and limits the ability to be gainfully employed which significantly impacts the patient, patient's family, and society (Ghahramani, 2015). In addition to significant morbidity and mortality (Ghahramani, 2015), dialysis often results in physical disability and depression (Finkelstein & Finkelstein, 2000; Kimmel, Weihs, & Peterson, 1993; Theofilou, 2011). Additional symptoms faced by patients on dialysis include decreased social relationships, sleep disturbances, and anxiety (Jankowska-Polanska et al., 2016; Theofilou, 2011). The symptoms experienced by dialysis patients result in an overall decreased quality of life when compared to healthy individuals (Jankowska-Polanska et al., 2016).

The complex nature of chronic disease management requires support and input from a variety of sources (Embuldeniya et al., 2013). Trained healthcare professionals, such as nurses, often provide dialysis patients with information and education on symptom management (Bennett, St. Clair Russell, Atwal, Brown, & Schiller, 2018).

Dialysis patients require education on self-management of fluid intake, dietary restrictions, and medication schedules (as stated in St. Clair Russell et al., 2017). This education is often complex and is delivered at a time of high anxiety for patients transitioning to dialysis (St. Clair Russell et al., 2017). Nurses, although trained healthcare professionals, may not fully comprehend the challenges faced by dialysis patients as they have not experienced these challenges personally (Tim, King, & Bennett, 2007).

Reduction of Disease Burden

A reduction in the kidney disease burden is beneficial for both patients and health care organizations. One goal of Healthy People 2020 is to decrease the incidence and prevalence of CKD and its complications (Office of Disease Prevention and Health Promotion, 2016). Utilizing available resources to reduce complications and kidney disease burden is essential to improving patient outcomes while providing safe and quality care. Efforts to engage patients and their families within the resources of healthcare systems has become an interest of national concern. Quality improvement (QI) initiatives involving patient engagement, such as the peer mentor program, are recommended by Centers for Medicare and Medicaid Services (CMS, 2018), Institute for Healthcare Improvement (IHI, 2018), World Health Organization (WHO, 2018), and the Midwest Kidney Network (2018). Peer mentoring in dialysis patients has been shown to reduce disease burden and improve health outcomes in dialysis patients (Bennett et al., 2018; Collins, 2016; Feroze et al., 2010; Ghahramani, 2015; Parry & Watt-Watson, 2009; St. Clair Russell, et al., 2017; Symister & Friend, 2003; Thong, Kaptein, Krediet, Boeschoten, & Dekker, 2007).

Peer Mentor Program

The peer mentor program pairs a patient who has previously experienced or is currently experiencing ESRD and hemodialysis (mentor) with a dialysis patient (mentee) to develop a personal relationship which provides emotional support and information on common health-related issues (Dennis, 2003; Hughes, Wood, & Smith, 2009). Newly diagnosed ESRD patients requiring hemodialysis and patients struggling to self-manage their condition may benefit from peer support through a peer mentor program (Taylor, Gutteridge, & Willis, 2016).

Strengths of the peer mentor program include health related benefits to both mentor and mentee (Bennett et al., 2018; Collins, 2016) such as improved survival and quality of life in dialysis patients (Thong et al., 2007). Weaknesses of the program include the amount of time and cost needed to train mentors, limited clinical research and some mentees reported increased anxiety while participating in the peer mentor program (Hughes et al., 2009).

PICOT Question

The PICOT question of interest was, in outpatient adult hemodialysis patients, how will a peer mentor program affect the quality of life, depression symptoms, and self-efficacy in program participants compared to non-program participants over three months?

Objectives

1- To adapt and implement a predesigned peer mentor program in one outpatient hemodialysis facility

2- To evaluate the effects of a peer mentor program on quality of life of program participants

3- To evaluate the effects of a peer mentor program on depression symptoms of the program participants.

4- To evaluate the effects of a peer mentor program on the self-efficacy of the program participants.

5- To compare the effects of a peer mentor program on quality of life, depression symptoms, and self-efficacy with a comparison group (no peer mentor program).

Tools used to evaluate these objectives included the Kidney Disease Quality of Life (Rand Health, 2018), Patient Health Questionnaire (Pfizer, 1999), and Self-Efficacy for Managing Chronic Disease surveys (Self-Management Resource Center, 2018). These objectives were evaluated within the peer mentor program participants and between the participants (intervention) and non-participants (comparison group).

Process objectives. The process objectives included enrolling 16 participants in the intervention and 16 participants in the comparison group; completing this QI project including development, implementation, and data collection within six months; and evaluation of a minimum of eight mentor/mentee interactions within the three-month peer mentor program.

Review of the Evidence

Search Criteria Process

A comprehensive search strategy for peer mentoring was completed. The following electronic databases were searched from 1983 to 2019: CINAHL, Cochrane Library, Medscape, and PubMed. Inclusion filter criteria included peer-reviewed, English language, and academic journals. MeSH search terms included: “peer mentor” and “peer support” combined with “end-stage renal disease,” “dialysis,” “kidney disease,” and “chronic disease”. Using the search terms “peer support + chronic disease” provided the best initial results. Using these search terms in CINAHL yielded 120 results. Initial review of articles included only articles about individual peer mentor programs excluding peer group support yielded 20 articles. Repeating the process in Cochrane Library, Medscape, and PubMed yielded an additional two articles. Full review of these 22 articles including references for each article yielded an additional six articles for a total of 28 articles pertaining to the PICOT question.

Literature Review Themes

Peer mentoring affects outcomes. Peer mentoring promotes positive outcomes by offering personalized patient-centered support (Ghahramani, 2015) from a trained peer in a real, authentic, and non-hierarchical manner (Bennett et al., 2018). Healthcare staff from four facilities incorporated peer mentoring in primary care practices reported that the roles of the peer mentor include aiding in daily symptom management, social and emotional support, linking clinical care and community resources, and providing ongoing support (Mayer et al., 2016). Peer mentor program participants report perceptions of the program include feeling a sense of connection, experiential knowledge, finding meaning in one’s life, decreased isolation, reciprocity, helping, and role satisfaction (Embuldeniya et al., 2013) and understanding, empathy, coping, hope, and adaption to demanding treatment regimens (Hughes et al., 2009). Peer mentor programs are effective models in increasing end-of-life planning for dialysis patients (Perry et al., 2003; Perry et al., 2005) and choice of treatment modality (Ghahramani et al., 2015; Morton et al., 2010).

Peer mentoring has also been shown to be a useful model in promoting positive health outcomes for both mentor and mentee. Program participants demonstrated an increase in disease management knowledge, self-efficacy, and social support (Feroze et al., 2010; St. Clair Russell, et al., 2017; Symister & Friend, 2003). The National Kidney Foundation's peer mentoring program has reported increased patient activation measure (PAM) which reflects increased readiness in patients to self-manage kidney disease symptoms (Collins, 2016). Improved quality of life has been associated with mentee participation in the peer mentor program (St. Clair Russell et al., 2017; Thong et al., 2007). These positive patient outcomes have been associated with increased survival (Thong et al., 2007).

Components of the peer mentor program. Key peer mentor program components may be applied flexibly depending on the aim of the program and the needs of the healthcare system and population (Bennett et al., 2018; Boothroyd & Fisher, 2010). Key program components have been identified to include assistance in disease management skills, emotional and social support, linkage to clinical care, and ongoing support (Boothrod & Fisher, 2010; Fisher et al., 2014). Disease management skills and support may be included as components of mentor training. Linkage to clinical care and ongoing support may be included as components of staff training.

Method of program delivery must be flexible to meet the needs of the population; however, consistent enough to promote positive patient outcomes (Fisher et al., 2014). Offering a variety of meeting options increases the likelihood of meeting individual patient personality preferences (Fisher et al., 2014). The most prevalent programs offer a combination of face-to-face and telephone combination (Bennett et al., 2018). Face-to-face meetings and telephone calls have been shown to eliminate distance barriers and facilitate diverse methods of contact (Bennett et al., 2018). An initial face-to-face meeting may provide immediate reassurance and support for the mentee, while ongoing monthly telephone calls assist in the development of the mentor-mentee relationship (Bennett et al., 2018).

The length of peer mentor programs is also dependent on program objectives. Extended period programs promote the development of strong personal relationships (Heisler, 2006; Perry et al., 2005). Shorter programs, which do not have objectives to develop strong personal relationships, offer targeted interactions with bidirectional sharing of experiences and support, which has been shown to promote positive outcomes in the ESRD population (Taylor et al., 2016). Positive patient outcomes have been associated with peer mentor programs lasting a minimum of eight weeks with mixed methods of program delivery (Joseph, Griffin, Hall, & Sullivan, 2001; MacPherson, Joseph, & Sullivan, 2004; St. Clair Russell, 2017; Sutton & Erlen, 2006).

Training is critical to the success of the program. Mentor and staff training are important aspects of a successful peer mentor program. Comprehensive mentor training is necessary to prepare the mentor to facilitate the support of a mentee without providing medical advice (Bennett et al., 2018). Key components of mentor training include communication skills training (Bennett et al., 2018; Collins, 2016; Funnell, 2010; Perry et al., 2003; Radice, 1995), problem solving (Bennett et al., 2018; Collins, 2016; Perry et al., 2003), confidentiality (Bennett et al., 2018; Collins, 2016; Radice, 199), disease knowledge for self-management of symptoms (Bennett et al., 2018; Boothroyd & Fisher, 2010; Fisher et al., 2015; Perry et al., 2003; Radice, 1995), and methods of providing social and emotional support (Boothroyd & Fisher, 2010; Collins, 2016; Fisher et al., 2015; Funnell, 2010).

Staff training is necessary to provide support to the mentor/mentee team and for a successful program (Bennett et al., 2018; McCarthy, 2017). An interdisciplinary program team provides oversight and support for the program (Boothroyd & Fisher, 2010; Fisher et al., 2015; Fisher et al., 2014), provides mentor backup to answer clinical questions as needed (Fisher et al., 2014), and recruiting mentors/mentees (Bennett et al., 2018). The supportive staff promotes program success and sustainability (Bennett et al., 2018). A Masters' level social worker (MSW) has advanced education to perform the functions of the program coordinator, matching a mentor with a mentee, mentor training, and program management (Brown, 2006).

Conceptual Framework

The conceptual framework used to design this DNP project was the self-efficacy theory. Bandura's (1977) theory of self-efficacy indicates a person's self-belief in the competencies one possesses will increase or decrease the chance of successfully accomplishing a task. The ability to engage with one's environment is more than knowing what to do in a situation (Bandura, 1982). Efficacy with successful interactions in the environment involves a mixture of behavior, social, and cognitive skills (Bandura, 1982).

People try to maintain control of their lives by controlling events. Perceived self-efficacy is a belief in one's ability to adapt to changes in an environment that may be ambiguous, unpredictable, and stressful (Bandura, 1986; Bandura, 1997). The theory of self-efficacy is not indicated to measure a person's adaptation skills but is intended to measure a perceived belief of what a person thinks can be accomplished with the skill set already possessed (Bandura, 1986). A person's most profound fear is defenselessness or total loss of control of their personal environment (Bandura, 1986).

The development of new skills and expansion of current skills generates human stress (Wiedenfeld et al., 1990). Stress contributes to physical dysfunctions, such as immunologic suppression (Wiedenfeld et al., 1990) and decreases quality of life (Ames, Jones, Howe, & Brantley, 2001). Perceived self-efficacy affects the directions and magnitude of stress on the body by the process of coping (Wiedenfeld et al., 1990). This involves the process of appraising one's coping efficacy in the face of unremitting stressors (Widenfeld et al., 1990). A person's ability to cope with changing events and social conditions may significantly affect feelings of futility, despondency, and anxiety (Bandura, 1982). A person may give up if overwhelmed by these negative feelings (Bandura, 1982). Development of strong self-efficacy is needed to change feelings of futility, despondency, depression, and anxiety (Bandura, 1982). A person with strongly perceived self-efficacy is more likely to persist until they are successful in accomplishing the task at hand and can overcome negative feelings (Bandura, 1982). Self-efficacy provides the intrinsic motivation that may cultivate competence (Bandura & Schunk, 1981), which may lead to improved quality of life in dialysis patients.

Increasing perceived self-efficacy involves four sources of information: mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1977). These sources of information are incorporated in varying degrees to increase self-efficacy and decrease stressors (Bandura, 1977).

Mastery experiences. Mastery experiences are associated with the most substantial increase in self-efficacy (Bandura, Adams, & Bever, 1997). Repeated successful task completion increases perceived self-efficacy while repeated failures lower perceived self-efficacy (Bandura, 1977; Bandura, 1982). High self-efficacy from successful personal experience mastery reduces the negative impact of occasional failures (Bandura, 1977). Induction of mastery experiences self-efficacy includes participant modeling, performance desensitization, performance exposure, and self-instructed performance (Bandura, 1977).

Vicarious experiences. Vicarious experiences are the second most powerful source of self-efficacy (Bandura, Adams, & Bever, 1997). Vicarious experiences develop from observation of other people (Bandura, 1977). Self-efficacy increases by seeing people similar to ourselves with a similar skill set to succeed at a given task (Bandura, 1977; Bandura, 1982). Vicarious experiences increase self-efficacy by modeling, not social comparison (Bandura, 1982). Information regarding the nature and predictability of the environment may be conveyed by modeling (Bandura, 1982). Effective strategies for dealing with situations may be taught by effective modeling (Bandura, 1982). Induction of vicarious experiences self-efficacy includes live modeling and symbolic modeling (Bandura, 1977).

Verbal persuasion. Influential people may strengthen a person’s belief that they possess the skills and are capable of successfully accomplishing a task (Bandura, 1977; Bandura, 1982). Self-efficacy arising from verbal persuasion is generally weaker than by mastery experiences due to a lack of an authentic experiential base (Bandura, 1977). Although verbal persuasion may not be as effective as mastery experiences in increasing self-efficacy, verbal persuasion does contribute to success when provided with provisional aids (Bandura, 1977). Induction of verbal persuasion self-efficacy includes suggestion, exhortation, self-instruction, interpretive treatments (Bandura, 1977).

Physiological states. Stressful and taxing situations increase emotional arousal, which may enhance or impede the ability to successfully complete or cope with a task (Bandura, 1977; Bandura, 1982). Individuals are more likely to expect success if they are not overcome by the emotional arousal of the anticipated event (Bandura, 1977; Bandura, 1982). Induction of decreased physiological states self-efficacy, also known as emotional arousal, includes attribution, relaxation, biofeedback, symbolic desensitization, and symbolic exposure (Bandura, 1977).

The self-efficacy theory is a comprehensive theory which provides a conceptual framework incorporating multiple modes of influence to affect behavior (Bandura, 1982). The self-efficacy theory associates efficacy independent of performance to provide a basis for predicting the generality of coping behavior (Bandura, 1977). Self-perceived capabilities allow people to attempt to cope, and people will avoid stressful events if they perceive the environment exceeds their ability (Bandura, 1982).

Implementation of Peer Mentor Quality Improvement Program

Setting

This project took place in the microsystem of an out-patient independently owned dialysis center in Grand Forks, North Dakota (ND), following the recommendations of Midwest Kidney Network (MKN). MKN serves as a governing body for dialysis centers of five upper mid-western states (ESRD National Coordinating Center, 2018), including ND. The peer mentor program was recommended by MKN to increase patient and family engagement (Bolgana, 2018). The Midwest Kidney Network's goal was 50% of the dialysis units within this network would have a peer support program in place by the end of 2018 (Bolgana, 2018). The peer mentor program was aligned with the mission statement of the dialysis unit to "provide the highest quality and up-to-date care to dialysis patients while promoting optimal health and quality of life" (J. McGauvran, personal communication, September 5, 2018). Aurora Dialysis is a free-standing, privately owned facility and has no affiliation with a healthcare system.

Participants

Participants were currently receiving hemodialysis treatments at one independently owned outpatient facility. Participants were age 18 or older men and women. All races/ethnicities were included.

Participants were recruited by convenience sampling from Aurora Dialysis in Grand Forks, North Dakota. The ability to access study participants included thrice-weekly on-site treatments for hemodialysis patients. Participants were enrolled in the study by self-identification or referral from direct dialysis staff, including nursing, dietician, physician, and social work. A recruitment flyer was placed in the patient waiting room, upon entrance to the dialysis unit in front of the patient scale, and one flyer was given to each patient. The flyers were available for the dialysis staff, as well. The interested patients were referred to the Principle Investigator (PI) as stated above.

Inclusion criteria

- Mentor inclusion criteria: over 18 years of age, received hemodialysis treatments for more than 12 months and reported access to cellphone or telephone

- Mentee inclusion criteria: over 18 years of age, received at least one hemodialysis treatment but less than 12 months of hemodialysis treatments and reported access to cellphone or telephone
- Comparison inclusion criteria: over 18 years of age, was not willing to participate in the peer mentor group but willing to complete questionnaires

Exclusion criteria all groups

- under 18 years of age, non-English speaking patients without an interpreter, medical diagnosis of aphasia or severe dementia, reported no access to cellphone or telephone

Possible risks to subjects. There were no anticipated injury or physical risks, beyond those experienced in everyday life, for participating in this research study. Some of the survey questions may have appeared personal, causing discomfort. The participant was instructed to contact the PI if they wanted to discuss their feelings at 701-213-8813. The other potential risk was the breach of confidential information. To avoid breach of confidentiality, a random number was given to each participant for all communications; the mentors and mentees were trained especially in this regard, and participants signed a statement that they would not discuss the personal information of the mentor or mentee with anyone else nor in the social media.

Confidentiality. A random number was given to each participant. The random number was used on all documents. On a sheet of paper, the PI gathered the name and phone number of the participants and the random number for future use. This sheet of paper and consent forms was stored in a locked box in the PI's office. A password-protected computer, which is locked in a cabinet in the PI's office, was used to store all results. Results will be destroyed using shredder three years after data analysis is complete. Data were reported in aggregate form using pseudonyms (study location, names, etc.) in all reports.

Consent. Participants were informed of the study in person by the PI using the "Informed Consent Statement." Participation in this study was voluntary. The participants received an explanation regarding the study's purpose, time commitments, and participation requirements including voluntary participation (see Appendix C). Participating or declining to participate in this research did not affect the patient's care. The participant may have opted-out of this research at any time by verbal contact with the PI. Consent was reaffirmed before each interaction/session with PI; consent was reaffirmed by having the participants initial the corresponding line on the participant's original consent form.

Design. The overall design of this project was pre/post-intervention evaluation quasi-experimental. Pre and post-intervention assessment tools are discussed in the instrument section. The dialysis unit was broken into an intervention and a comparison group. The intervention group participated in the peer mentor program with usual care, while the comparison group received usual care. Participation in the peer mentor group included mentors and mentees.

Intervention. The intervention included participation in the peer mentor program plus usual care. The comparison included the usual care only.

- Step 1: Adaptation of pre-designed peer mentor program from Quality Insights Renal Network 5 (2018) Peer UP program. Adaptation of the Peer UP peer mentor program was completed by the PI to meet the needs of the rural outpatient hemodialysis clinic in North Dakota. See Appendix D for the permission email.

- Step 2: Facility staff training: The PI trained facility staff including management, nurse practitioners, physicians, nursing, Masters' social worker (MSW), and dietitians by 45-minute powerpoint presentation. See Appendix E for staff training material.
- Step 3: Participant recruitment. Flyers were distributed as described above. Each participant expressing interest in the study (self or staff identified) was directed to the PI. The PI met the potential participants in person while they were in the facility for dialysis care. After introducing the project, per the recruitment script (Appendix F), each participant was given an informed consent statement (Appendix C). Participants expressing interest in being a mentor or mentee were given a program application, which included participants' names, days of dialysis treatments, type of dialysis access, and personal interests (Appendix G), which was completed before participating in the study. Interaction between the PI and potential study participants lasted 30 – 45 minutes for each participant. The completed application was returned to the program coordinator, the MSW, as she was present in the dialysis center each weekday.
- Step 4: Allocation of participants to groups by the PI was completed following the inclusion and exclusion criteria described above.

- Step 5: Pre-intervention survey. Surveys were distributed by the PI during a scheduled dialysis treatment. Each study participant received the same paper surveys, including demographics, Kidney Disease Quality of Life (KDQOL) short form – 36 (Rand Health, 2018), Self-efficacy for Managing Chronic Disease (SEMDC) 6-item scale (Self-Management Resource Center, 2018), and Patient Health Questionnaire (PHQ-9) 9 item scale (Pfizer, 1999). All surveys were in paper format. The surveys included the patient's assigned random number instead of personal identifiers to protect confidentiality. The surveys were completed during the scheduled dialysis treatment. If the participant was unable to complete the survey without assistance or requested assistance with the completion of the survey, assistance was provided by the PI. Assistance to complete the survey consisted of reading the survey questions to the participant. Completion of the surveys lasted less than one hour for most of the participants.
- Step 6: Mentor and mentee matching. Matching was completed by the PI using the program application. Priority matching question was item number one which was days of dialysis treatments. Given the rural geographic location of the hemodialysis facility and length of travel time for some participants, it was important to match participants, so that they may interact on off-dialysis days. Questions are listed in the application in order of importance and matching occurred by order of the questions. See Appendix G for matching questions from the program application. The

mentors and mentees were matched with similar interests. Mentors were given the name and phone number of the mentee by the PI. This step took four hours to complete.

- Step 7: Training of participants by the PI. Mentor training included a program overview and skills in active listening, motivating, self-care tips, confidentiality, and seeking assistance from clinical staff. The mentor training material was adapted from the Peer UP program (Quality Insights Renal Network 5, 2018). Mentor training occurred during three consecutive hemodialysis treatments and lasted 1 hour 45 minutes each session. Mentee training occurred during one hemodialysis session and included an overview of the program and confidentiality. Mentee training lasted 30 minutes per participant.
- Step 8: Intervention. Mentors initiated interactions with mentees by cellphone or telephone following the mentor guide (Appendix H). Interactions lasted approximately 30 – 120 minutes each time and occurred bi-monthly for three months. Mentors and mentees completed a contact log form with each interaction. The contact log forms were returned to the PI during regularly scheduled dialysis treatments. See Appendix I for mentor log and Appendix J for mentee log forms.
- Step 9: Post-intervention survey. Surveys were distributed by the PI during a scheduled dialysis treatment. Each study participant received the same paper surveys, including Kidney Disease Quality of Life (KDQOL) short form – 36 (Rand Health, 2018), Self-efficacy for Managing Chronic

Disease (SEMDC) 6-item scale (Self-Management Resource Center, 2018), and Patient Health Questionnaire (PHQ-9) 9 item scale (Pfizer, 1999) The surveys included the patient's assigned random number instead of personal identifiers to protect confidentiality. The surveys were completed during the scheduled dialysis treatment. If the participant was unable to complete the survey without assistance or requested assistance with the completion of the survey, the PI provided assistance by reading the questions to the participant. Participants in the intervention group (mentors and mentees) also received a program feedback form. The feedback form did not request patient identifying information. The mentor and mentee feedback forms were adapted from Quality Insights Renal Network 5 (2018). See Appendix K for the mentor feedback survey and Appendix L for the mentee feedback survey forms. Completion of the surveys lasted less than one hour for most of the participants.

- Step 10: Data Analysis. Data was analyzed using SPSS in an aggregate form without patient identifying information by an independent statistician. This step lasted one month.

Timeline. This project began after receiving the Institutional Review Board (IRB) approval from the University of Alabama in Huntsville IRB on January 22, 2019.

- Step 1: Adaptation of pre-designed peer mentor program – January 22 – 30, 2019
- Step 2: Facility staff training – January 30, 2019
- Step 3: Participant recruitment – February 1 – 14, 2019
- Step 4: Allocation of participants to groups – February 14 – 18, 2019

- Step 5: Pre-intervention survey – February 18 – 19, 2019
- Step 6: Mentor and mentee matching – February 20, 2019
- Step 7: Training of intervention group participants
    - Mentor training – February 25 - March 1, 2019
    - Mentee training – March 1, 2019
- Step 8: Intervention three months – March 4 – June 3, 2019
- Step 9: Post-intervention surveys – June 3 – 6, 2019
- Step 10: Data Analysis – July 2019

Cost. The total cost of this peer mentor program with evaluation was estimated at $2405.00, which included 42-hours registered nurse (RN) and 30-hours MSW work hours.

Data. Participant demographic data was collected as well as pre and post-intervention survey data of all participants. Surveys were collected by the MSW. The random number assigned to each participant was used on all documents to protect the participant's privacy and confidentiality. Data analysis was conducted using only aggregate de-identified data to protect the participant's privacy and confidentiality. A password protected computer in the PI's office was used to store all results. Results will be stored for a minimum of three years after data analysis is complete, or for a period of time which meets federal, state, local regulations, and organizational policies and procedures.

Instruments

Self-efficacy for managing chronic disease (SEMCD). The SEMDC (Self-Management Resource Center, 2018) survey is a six-item scale which developed from long-standing research in chronic disease management and self-efficacy (Freund, Genishen, Goetz, Szecsenyi, & Mahier, 2013). This survey is reliable, valid, and economic among different chronic disease states and has been widely tested (Freund et al., 2013; Riehm et al., 2016; Ritter & Lorig, 2014). Emotional function, communication with healthcare providers, symptom control, and role function are the primary domains of SEMDC (Freund et al., 2013). SEMDC is available online and is free to use for non-commercial purposes (Self-Management Resource Center, 2018). Refer to Appendix *M* for SEMCD (Self-Management Resource Center, 2018).

KDQOL-36. The KDQOL-36 (Rand Health, 2018) survey provides scores of physical and mental composites (items 1 – 12), the burden of kidney disease (items 13 – 16), symptoms (items 17 – 28), and effects of kidney disease (items 29 – 36) (Rand Health, 2018). The KDQOL-36 (Rand Health, 2018) is considered a reliable and valid tool for measuring quality of life in dialysis patients (Fujisawa et al., 2000; Kalantar-Zadeh, Kopple, Block, & Humphreys, 2001; Liem et al., 2007 Peipert, Bentler, Klicko, & Hays, 2017). Scoring was completed with use of the KDQOL-36 Excel scoring tool (Rand Health, 2018). Scores range from zero to 100 for each item, and better health is indicated by a higher score (Liem, Bosch, Arends, Heijenbrok-Kal, & Myriam Hunick, 2007). All surveys developed by Rand Health (2018) are available online and are free for non-commercial use. Refer to Appendix N for KDQOL-36 (Rand Health, 2018).

PHQ-9. The PHQ 9 is a nine-item survey which is considered a reliable and valid multipurpose instrument for depression and rates the frequency of depression symptoms (Pfizer, 1999). The survey is free for public use and, when used repeatedly, can reflect improvement or worsening of depression symptoms (Kroenke, Spitzer, & Williams, 2001). The score is calculated by adding the individual responses of the nine questions. Data were analyzed for statistically significant changes from pre to post-survey within each group and between the groups. Refer to Appendix O for PHQ-9 (Pfizer, 1999).

Evaluation of Objectives

Health Outcome Hypothesis

Quality of life. The application of a peer mentor program will increase the quality of life scores in the intervention group.

Self-efficacy. The application of a peer mentor program will increase self-efficacy in the intervention group.

Depression symptoms. The application of a peer mentor program will decrease depression symptoms in the intervention group.

Process Objectives

Number of participants. Six mentors, six mentees, and 11 comparison participants completed the study.

Section II

DNP Project Product

I. Nephrology Nursing Journal

A. Scope of the journal.

The *Nephrology Nursing Journal* is a peer-reviewed journal designed to meet the educational needs of nephrology nurses at all levels of practice.

B. Aim of the journal.

The aim of the journal is to disseminate current information in research, practice, and education. Author guidelines are included in Appendix P.

Lessons Learned: Implementation of Peer-to-Peer Mentor Program in Individuals Requiring Hemodialysis

Abstract

Individuals requiring dialysis experience significant life-style, emotional, and physical changes that affect quality of life (QOL). The peer mentor program pairs an individual with dialysis experience (mentor) with an individual new to dialysis (mentee) to provide support by sharing lived experiences which have been associated with improved health outcomes. The purpose of this paper is to describe the lessons learned during the implementation and evaluation of a peer mentor program to identify characteristics necessary for the success of peer-to-peer mentoring in a rural setting.

Keywords

Hemodialysis, peer mentor, mentee, peer support, kidney failure

Learning Outcome

After reading this manuscript, the learner will be able to describe three recommendations when implementing a peer-to-peer mentor program in individuals requiring outpatient hemodialysis.

Lessons Learned: Implementation of Peer-to-Peer Mentor Program in Individuals Requiring Hemodialysis

The development and progression of chronic kidney disease (CKD) is a significant health concern. Currently, over 30 million Americans have CKD (CDC, 2015). The incident of kidney failure continues to rise with 124,000 new cases annually, with 99% over the age of 22 years (United States Renal Data System [USRDS], 2017). The prevalence of kidney failure rises 20,000 cases annually (USRDS, 2017). In the US, with over 468,000 individuals (National Kidney Foundation, 2016), dialysis is the most common type of kidney replacement therapy (USRDS, 2017). Individuals requiring dialysis are older and have more comorbidities than years past which compounds the health and financial issues surrounding kidney failure and dialysis (Gilpin & Nichols, 2010; Perry et al., 2005).

The increasing incidence and prevalence rates of dialysis pose unique issues to nursing. This large patient population needs care, compassion, and education to self-manage their chronic disease. Most individuals with kidney failure also have comorbid chronic health conditions of hypertension and diabetes (USRDS, 2017). Many physical and emotional life changes, including social and psychological challenges, accompany a diagnosis of kidney failure with required dialysis or transplant (Morton, Tong, Howard, Snelling, & Webster, 2010; Shell, Patel, Ammarell, & Steinhauser, 2012; Tong et al., 2009). The use of available resources is necessary to promote positive health outcomes in this population.

Identification of the Problem

The progression to kidney failure requiring dialysis may be overwhelming for patients and their carers. Dialysis is a life-changing treatment plan requiring changes in lifestyle (Jankowska-Polanksa et al., 2016; Kaitelidou et al., 2005) and limits the ability to be gainfully employed which significantly impacts the patient, patient's family, and society (Ghahramani, 2015). In addition to significant morbidity and mortality (Ghahramani, 2015), dialysis often results in physical disability and depression (Finkelstein & Finkelstein, 2000; Kimmel, Weihs, & Peterson, 1993; Theofilou, 2011). Additional symptoms faced by patients on dialysis include decreased social relationships, sleep disturbances, and anxiety (Jankowska-Polanska et al., 2016; Theofilou, 2011). The symptoms experienced by individuals requiring dialysis result in an overall decreased quality of life when compared to healthy individuals (Jankowska-Polanska et al., 2016).

The complex nature of chronic disease management requires support and input from a variety of sources (Embuldeniya et al., 2013). Trained health care professionals, such as nurses, often provide individuals requiring dialysis with information and education on symptom management, which includes fluid intake, dietary restrictions, and medication schedules (Bennett, St. Clair Russell, Atwal, Brown, & Schiller, 2018). This education is often sophisticated and is delivered at a time of high anxiety for individuals transitioning to dialysis (St. Clair Russell et al., 2017). Nurses, although trained health care professionals, may not fully comprehend the challenges faced by individuals requiring dialysis as they have not experienced these challenges personally (Tim, King, & Bennett, 2007).

Reduction of Disease Burden

A reduction in the kidney disease burden is beneficial for both patients and health care organizations. One goal of Healthy People 2020 is to decrease the incidence and prevalence of CKD and its complications (Office of Disease Prevention and Health Promotion, 2016). Utilizing available resources to reduce complications and kidney disease burden is essential to improving patient outcomes while providing safe and quality care. Efforts to engage patients and their families within the resources of healthcare systems has become an interest of national concern. Quality improvement (QI) initiatives involving patient engagement, such as the peer mentor program, are recommended by Centers for Medicare and Medicaid Services (CMS, 2018), Institute for Healthcare Improvement (IHI, 2018), World Health Organization (WHO, 2018), and the Midwest Kidney Network (2018). Peer mentoring in individuals requiring dialysis has been shown to reduce disease burden and improve health outcomes (Bennett et al., 2018; Collins, 2016; Feroze et al., 2010; Ghahramani, 2015; Parry & Watt-Watson, 2009; St. Clair Russell, et al., 2017; Symister & Friend, 2003; Thong et al., 2007).

Peer Mentor Program

The peer mentor program pairs a patient who has previously experienced or is currently experiencing ESRD and hemodialysis (mentor) with a dialysis patient (mentee) to develop a personal relationship which provides emotional support and information on common health-related issues (Dennis, 2003; Hughes, Wood, & Smith, 2009). Newly diagnosed ESRD patients requiring hemodialysis and patients struggling to self-manage their condition may benefit from peer support through a peer mentor program (Taylor, Gutteridge, & Willis, 2016).

Strengths of the peer mentor program include health related benefits to both mentor and mentee (Bennett et al., 2018; Collins, 2016) such as improved survival and quality of life in dialysis patients (Thong et al., 2007). Weaknesses of the program include the amount of time and cost needed to train mentors, limited clinical research, and some mentees reported increased anxiety while participating in the peer mentor program (Hughes et al., 2009).

Key peer mentor program components have been identified to include assistance in disease management skills, emotional and social support, linkage to clinical care, and ongoing support (Boothrod & Fisher, 2010; Fisher et al., 2014). Disease management skills and support may be included as components of mentor training. Linkage to clinical care and ongoing support may be included as components of staff training. These key peer mentor program components may be applied flexibly depending on the aim of the program and needs of the healthcare system and population (Bennett et al., 2018; Boothroyd & Fisher, 2010).

Purpose

The purpose of this paper is to describe the lessons learned during the implementation and evaluation of a peer mentor program to identify characteristics necessary for the success of peer-to-peer mentoring in a rural setting. For this reason, a peer mentor program was implemented and evaluated in one independently owned out-patient hemodialysis facility in rural North Dakota. The question of interest for this quality improvement project was, in outpatient adult patients requiring hemodialysis, how will a peer mentor program affect the quality of life (QOL), depression symptoms, and self-efficacy in program participants compared to non-program participants over three months? The hypotheses included a positive impact on QOL, depression symptoms, and self-efficacy in the peer mentor program participants.

Conceptual Framework

The conceptual framework used to design this quality improvement project was the self-efficacy theory. Bandura’s (1977) theory of self-efficacy indicates a person’s self-belief in the competencies one possesses will increase or decrease the chance of accomplishing a task. The ability to engage with one’s environment is more than knowing what to do in a situation (Bandura, 1982). Efficacy with successful interactions in the environment involves a mixture of behavior, social, and cognitive skills (Bandura, 1982).

People try to maintain control of their lives by controlling events. Perceived self-efficacy if a belief in one’s ability to adapt to changes in an environment that may be ambiguous, unpredictable, and stressful (Bandura, 1986; Bandura, 1997). The theory of self-efficacy is not indicated to measure a person’s adaptation skills but is intended to measure a perceived belief of what a person thinks can be accomplished with the skill set already possessed (Bandura, 1986). A person’s most profound fear is defenselessness or total loss of control of their personal environment (Bandura, 1986).

The development of new skills and expansion of current skills generates human stress (Wiedenfeld et al., 1990). Stress contributes to physical dysfunctions, such as immunologic suppression, (Wiedenfeld et al., 1990) and decreases quality of life (Ames, Jones, Howe, & Brantley, 2001). Perceived self-efficacy affects the directions and magnitude of stress on the body by the process of coping (Wiedenfeld et al., 1990) which involves the process of appraising one’s coping efficacy in the face of unremitting stressors (Widenfeld et al., 1990). A person’s ability to cope with changing events and social conditions may significantly affect feelings of futility, despondency, and anxiety (Bandura, 1982). A person may give up if overwhelmed by these negative feelings

(Bandura, 1982). Development of strong self-efficacy is needed to change feelings of futility, despondency, depression, and anxiety (Bandura, 1982). A person with strongly perceived self-efficacy is more likely to persist until they are successful in accomplishing the task at hand and can overcome negative feelings (Bandura, 1982). Self-efficacy provides the intrinsic motivation that may cultivate competence (Bandura & Schunk, 1981) which may lead to improved quality of life in dialysis patients.

Increasing perceived self-efficacy involves four sources of information: mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1977). These sources of information are incorporated in varying degrees to increase self-efficacy and decrease stressors (Bandura, 1977).

Mastery Experiences

Mastery experiences are associated with the most robust increase in self-efficacy (Bandura, Adams, & Bever, 1997). Repeated successful task completion increases perceived self-efficacy while repeated failures lower perceived self-efficacy (Bandura, 1977; Bandura, 1982). High self-efficacy from successful personal experience mastery reduces the negative impact of occasional failures (Bandura, 1977). Induction of mastery experiences self-efficacy includes participant modeling, performance desensitization, performance exposure, and self-instructed performance (Bandura, 1977).

Vicarious Experiences

Vicarious experiences are the second most powerful source of self-efficacy (Bandura, Adams, & Bever, 1997). Vicarious experiences develop from observation of other people (Bandura, 1977). Self-efficacy increases by seeing people similar to ourselves with similar skill set to succeed at a given task (Bandura, 1977; Bandura, 1982). Vicarious experiences increase self-efficacy by modeling, not social comparison (Bandura, 1982). Information regarding the nature and predictability of the environment may be conveyed by modeling (Bandura, 1982). Practical strategies for dealing with situations may be taught by effective modeling (Bandura, 1982). Induction of vicarious experiences self-efficacy includes live modeling and symbolic modeling (Bandura, 1977).

Verbal persuasion

Influential people may strengthen a person's belief that they possess the skills and are capable of accomplishing a task (Bandura, 1977; Bandura, 1982). Self-efficacy arising from verbal persuasion is generally weaker than by mastery experiences due to a lack of an authentic experiential base (Bandura, 1977). Although verbal persuasion may not be as effective as mastery experiences in increasing self-efficacy, verbal persuasion does contribute to success when provided with provisional aids (Bandura, 1977). Induction of verbal persuasion self-efficacy includes suggestion, exhortation, self-instruction, interpretive treatments (Bandura, 1977).

Physiological states

Stressful and taxing situations increase emotional arousal which may enhance or impede the ability to complete or cope with a task (Bandura, 1977; Bandura, 1982). Individuals are more likely to expect success if they are not overcome by the emotional arousal of the anticipated event (Bandura, 1977; Bandura, 1982). Induction of decreased physiological states self-efficacy, also known as emotional arousal, includes attribution, relaxation, biofeedback, symbolic desensitization, and symbolic exposure (Bandura, 1977).

The self-efficacy theory is a comprehensive theory which provides a conceptual framework incorporating multiple modes of influence to affect behavior (Bandura, 1982). The self-efficacy theory associates efficacy independent of performance to provide a basis for predicting the generality of coping behavior (Bandura, 1977). Self-perceived capabilities allow people to attempt to cope, and people will avoid stressful events if they perceive the environment exceeds their ability (Bandura, 1982).

Methods

Design

The Institutional Review Board (IRB) from the University of Alabama in Huntsville approved the project proposal on January 22, 2019. The peer mentor program quality improvement project was a two-armed, mixed-method, pre/post-intervention evaluation quasi-experimental design. The intervention group, consisting of mentors and mentees, received the intervention plus usual care. The comparison group received usual care only. The intervention site was one independently owned hemodialysis center in rural North Dakota (ND). The hemodialysis center maintained a consistent 50 patient census with all patients receiving thrice-weekly treatments and had no affiliation with a healthcare system.

All participants received three paper surveys prior to the start of the intervention and at the close of the intervention. Mentors and mentees also received one paper survey for feedback on their experience with the peer mentor program. The surveys were completed in the dialysis center during the participants' regularly scheduled hemodialysis treatment. If a participant requested assistance to complete the surveys, assistance was provided by facility staff by reading the questions to the participant. Data was analyzed for changes from pre to post-survey within each group and between the groups.

Instruments

Self-efficacy for managing chronic disease (SEMCD).

The SEMCD (Self-Management Resource Center, 2018) survey is a six-item scale which developed from long-standing research in chronic disease management and self-efficacy (Freund, Genishen, Goetz, Szecsenyi, & Mahier, 2013). This survey is reliable, valid, and economic among different chronic disease states and has been widely tested (Freund et al., 2013; Riehm et al., 2016; Ritter & Lorig, 2014). Emotional function, communication with health care providers, symptom control, and role function are the primary domains of SEMCD (Freund et al., 2013). SEMCD is available online and is free to use for non-commercial purposes (Self-Management Resource Center, 2018).

Kidney Disease Quality of Life-36 (KDQOL-36).

The KDQOL-36 (Rand Health, 2018) is considered a reliable and valid tool for measuring the quality of life in dialysis patients (Fujisawa et al., 2000; Kalantar-Zadeh, Kopple, Block, & Humphreys, 2001; Liem et al., 2007 Peipert, Bentler, Klicko, & Hays, 2017). The 36 question survey provides scores of physical and mental composites (items 1 – 12), burden of kidney disease (items 13 – 16), symptoms (items 17 – 28), and effects of kidney disease (items 29 – 36) (Rand Health, 2018). Scoring is completed with use of the KDQOL-36 Excel scoring tool (Rand Health, 2018). Scores range from zero to 100 for each item and better health is indicated by a higher score (Liem, Bosch, Arends, Heijenbrok-Kal, & Myriam Hunick, 2007). All surveys developed by Rand Health (2018) are available online and are free for non-commercial use.

Patient Health Questionnaire-9 (PHQ-9). The PHQ 9 is a nine-item survey which is considered a reliable and valid multipurpose instrument for depression and rates the frequency of depression symptoms (Pfizer, 1999). The survey is free for public use and, when used repeatedly, may indicate improvement or worsening depression symptoms (Kroenke, Spitzer, & Williams, 2001).

Feedback Survey. The mentor and mentee feedback surveys were adapted with permission from Quality Insights Renal Network 5 (2018). The feedback surveys have been in use since 2015 by the *Peer UP* program (Quality Insights Renal Network 5, 2018). Peer mentor program material is available online and free to use or adapt with proper citation and credit to Quality Insights Renal Network 5 (2018).

Method: Peer Mentor Quality Improvement Project

Participants. Participants were recruited by convenience sampling from one rural hemodialysis clinic. Participants were enrolled in the study by self-identification or referral from direct dialysis staff, including nursing, dietician, physician, and social work. Recruitment flyers were placed in the patient waiting room, upon entrance to the dialysis unit in front of the patient scale, and one flyer was given to each patient.

Inclusion criteria.

- Mentor inclusion criteria: over 18 years of age, received hemodialysis treatments for more than 12 months; and reported access to cellphone or telephone
- Mentee inclusion criteria: over 18 years of age, received at least one hemodialysis treatment but less than 12 months of hemodialysis treatments; and reported access to cellphone or telephone

- Comparison inclusion criteria: over 18 years of age, not willing to participate in the peer mentor program but willing to complete questionnaires

Exclusion criteria for all groups. Under 18 years of age, non-English speaking individuals without an interpreter, medical diagnosis of aphasia, or severe dementia (as reported in electronic health record), reported no access to cellphone or telephone.

Intervention

The intervention included participation in the peer mentor program plus usual care. The comparison included the usual care only. The intervention was conducted from January 23 through June 4, 2019. It included peer mentor program adaptation, staff training, mentor and mentee training, mentor and mentee interactions by phone call, and follow-up feedback surveys.

Program adaptation. A pre-designed peer mentor program (Quality Insights Renal Network 5, 2018) was adapted to meet the needs of the rural outpatient hemodialysis clinic in North Dakota. The outpatient dialysis clinic is located in a ND city with a population of 56,000 people and a 19.7% poverty rate (Data USA, 2017). More than 50% of individuals drove one hour from their home to the dialysis clinic with some individuals driving up to three hours one way to reach the clinic. For this reason, the peer mentor program was designed for the mentor/mentee interactions to be completed by phone call.

Health care team training. The interdisciplinary health care team training occurred January 30, 2019, and consisted of a 45-minute powerpoint presentation to three mangers, three nurse practitioners, two physicians, ten nurses, one Masters' prepared social worker (MSW), and one dietitian. The staff promoted the peer mentor program, referred potential individuals to participate in the peer mentor program as mentors or mentees, and provided ongoing support for the program during the intervention period. See Table 1 for health care team training topics.

Participant recruitment. Participant recruitment occurred from February 2 – 18, 2019. Flyers to promote the peer mentor program were distributed to each individual requiring hemodialysis and posted throughout the dialysis unit. Each participant expressing interest in the study (self or staff identified) was given a program application that requested the participant's name, days of dialysis treatments, type of dialysis access, and personal interests. This program application was used to allocate participants into the intervention (mentor or mentee) or comparison group following inclusion and exclusion criteria as described above. The program application was also used to match mentors with mentees.

Pre-intervention survey. The pre-intervention surveys were distributed on February 18 – 19, 2019, during the scheduled dialysis treatment for each participant. Each participant received the same paper surveys of KDQOL– 36 (Rand Health, 2018), SEMCD (Self-Management Resource Center, 2018), and PHQ-9 (Pfizer, 1999). The surveys included the patient's assigned random number at the top of page one instead of personal identifiers to protect confidentiality. The surveys were completed during their scheduled dialysis treatment.

Mentor and mentee matching. Matching of mentors with mentee was completed using the program application forms with priority given to the days of dialysis treatments. Given the rural geographic location of the hemodialysis facility and length of travel time for some participants, it was essential to match participants by dialysis treatment days, so they would be able to interact on off-dialysis days. Mentors and mentees were also matched with similar interests.

Training of participants. The training of participants occurred on February 25 – March 1, 2019. Mentor training was adapted from Quality Insights Renal Network 5 (2018) Mentor Manual and included a program overview and skills in active listening, motivating, self-care tips, confidentiality, and seeking assistance from clinical staff. See Table 2 for modules and training topics for mentors. Mentor training was broken into three training sessions that lasted one hour 45 minutes each. Mentors were trained in groups of four, which allowed for interaction among the participants. Mentee training included an overview of the program, expectations, and review of confidentiality. Each mentee was trained individually for 30 minutes. Mentors and mentees were required to sign a statement of confidentiality during training. Training occurred during the participant's scheduled hemodialysis treatment sessions.

Mentor-mentee interactions. The mentor-mentee interactions occurred from March 2, 2019 – June 2, 2019. Mentors initiated interactions with mentees by cellphone or telephone. Interactions lasted approximately 30 – 120 minutes each time and occurred in frequence from once a month to twice a month. Mentors and mentees completed a contact log form with each interaction, which included date and length of interaction, topics discussed, and unit referrals. The health care team provided ongoing support of the program by following-up with mentors and mentees regarding the peer mentor program during each scheduled hemodialysis treatment. The staff encouraged the mentor to call the mentee if the mentor indicated no interaction had occurred with the mentee in the past week.

Post-intervention survey. Post-intervention surveys were distributed to all participants on June 3 – 4, 2019, during a scheduled dialysis treatment. Each participant received the same paper surveys, as described above. Participants in the intervention group (mentors and mentees) also received a program feedback form.

Data Analysis. Participant demographic data were collected at the beginning of the project. Data was analyzed using SPSS by a blind third-party statistician in an aggregate form without patient identifying information in July 2019.

Results

Participants

Initially, eight mentors, eight mentees, and 15 comparison participants were enrolled in the study. Six mentors, six mentees, and 11 comparison participants completed the study. The reasons for attrition included medical complications (one participant), lack of interest (one participant), relocation (one participant), death (two participants), and refusal to complete the post-intervention surveys (two participants). See *Figure 1* for the peer mentor program attrition rates.

Demographics

Mentors. There were six mentors, all male, that participated (Table 3). The average age was 60.50 (SD = 8.142) years old, with the minimum age being 53 and the maximum age being 73 for an age range 20 years. The data trends showed that most participants were married, had a high school education, were white, non-Hispanic, and not employed. The average number of months on dialysis was 68.33 (SD = 31.040), with a minimum of 34.00 months and a maximum of 105 months (Table 3).

Mentees. There were six mentees that participated, and two (33.3%) were male and four (66.7%) were female (Table 3). The average age was 62.5 (SD = 6.535) years old, with the minimum age being 54 and the maximum age being 71 for an age range 17 years. The data trends showed that most participants were widowed or divorced, had a college education, were white, non-Hispanic, and were equally employed or not employed. The average number of months on dialysis was 6 (SD = 4.290) with a minimum of 0 months and a maximum of 11 months (Table 3).

Comparison group (no intervention). There were 11 in the comparison group that participated, and four (36.4%) were male, and seven (63.6%) were female (Table 3). The average age was 70 (SD = 12.259) years old, with the minimum age being 52 and the maximum age being 88 for an age range 36 years. The data trends showed that most participants were widowed or married, had a high school or a college education, were white, non-Hispanic, and were not employed. The average number of months on dialysis was 53 (SD = 49.673) with a minimum of 10 months and a maximum of 167 months (Table 3).

Self-Efficacy

Within group comparisons. SEMCD mentee and mentor scores are shown in Figure 2. Using paired samples t-tests, there was no statistically significant mean differences found for mentors (M = .50, t (5) = -.465, p = 0.667) or mentees (M = .36, t (5) = -.256, p = 0.808).

Between-group comparisons. An ANOVA found no mean group differences between mentors, mentees and the comparison group on the post-SEMCD (F (2, 20) = 2.460, p = 0.111)

Depression Symptoms

Within group comparisons. PHQ-9 mentee and mentor scores are shown in Figure 3. Using paired samples t-tests, there was no statistically significant mean differences found for mentees (M = 2.28, t (5) = 1.533, p = 0.176) or mentors (M = .33, t (5) = .395, p = 0.709).

Between group comparisons. An ANOVA found no mean group differences between mentors, mentees and the comparison group on the post-PHQ-9 (*F* (2, 21) = 2.798, *p* = 0.084)

Quality of Life

Within groups comparison. KDQOL-36 scores shown in Table 4. Improvements in KDQOL-36 scores shown for mentees in the areas of symptom/problem list; effects of kidney disease; and mental health composites. Improvements in KDQOL-36 scores for mentors in the areas of symptom/problem list and burden of kidney disease. There were no improvements in KDQOL-36 scores for comparison group. Using paired samples t-tests, there was no statistically significant mean differences found for mentors on symptom/problem list (*M* = 1.39, *t* (5) = -.400, *p* = 0.705), effects of kidney disease (*M* = 0.00, *t* (5) = 0.00, *p* = 1.00), burden of kidney disease (*M* = 4.16, *t* (5) = -4.21, *p* = 0.691), physical health composite (*M* = 1.42, *t* (5) = 3.98, *p* = 0.707), and mental health composite (*M* = -.16, *t* (5) = -.038, *p* = 0.971). Again using paired samples t-tests, there were no statistically significant mean differences found for mentees on symptom/problem list (*M* = -2.08, *t* (5) = -.613, *p* = 0.567), effects of kidney disease (*M* = -7.29, *t* (5) = -1.581, *p* = 0.175), burden of kidney disease (*M* = 0.00, *t* (5) = 0.00, *p* = 1.00), physical health composite (*M* = .91, *t* (5) = .157, *p* = 0.882), and mental health composite (*M* = -3.46, *t* (5) = -1.694, *p* = 0.151).

Between groups comparison. An ANOVAs showed no statistically significant mean group differences found for mentors, mentees or the comparison group on symptom/problem list (*F* (2, 20) = 2.903, *p* = 0.078), effects of kidney disease (*F* (2, 20) = 1.308, *p* = 0.293), burden of kidney disease (*F* (2, 20) = .190, *p* = 0.829), physical health composite (*F* (2, 20) = .495, *p* = 0.617), and mental health composite (*F* (2, 20) = 532, *p* = 0.595).

Mentee and Mentor Feedback

Five mentees returned the feedback form indicting an 83.3% return rate. Mentee feedback is depicted in Table 5. The majority of mentees (60% or higher) indicated talking with their mentor was helpful; sharing their story was helpful; learned new information from mentor; felt comfortable asking their mentor questions; mentor listened carefully; would recommend other dialysis patients talk with a mentor; and it is important to continue the peer mentor program at their facility.

Two mentors returned the feedback form for a 40% return rate. Mentor feedback is shown in Table 6. 100% of mentors reported talking with their mentee was helpful; working with mentee helped them feel better; mentor training sessions prepared them to be a mentor, and it is essential to continue the peer mentor program at their facility.

Discussion

The peer mentor program began with eight mentor-mentee pairs and concluded with six mentor-mentee pairs. Each mentor-mentee pair reported a minimum of one phone interaction monthly with one mentor-mentee pair reporting phone interactions twice monthly. The mentor-mentee pairs met by phone for only three months, which may have been as few as three phone calls.

The program was associated with improved PHQ-9 scores by five mentees and four mentors; improved SEMCD scores by four mentees and three mentors; and improved KDQOL-36 mean scores in the areas of symptom/problem list, effects of kidney disease, and mental health composite for mentees and symptom/problem list and burden of kidney disease for mentors. Although the data analysis revealed no statistical significance in these areas, it is important to recognize and appreciate the clinical significance of these improved scores. Improvement in self-efficacy, quality-of-life, and depression symptoms may ultimately affect morbidity and mortality for that individual.

The results of this project are aligned with previous research. Peer mentoring in individuals requiring dialysis has been shown to reduce disease burden and improve health outcomes (Bennett et al., 2018; Collins, 2016; Feroze et al., 2010; Ghahramani, 2015; Parry & Watt-Watson, 2009; St. Clair Russell, et al., 2017; Symister & Friend, 2003; Thong, Kaptein, Krediet, Boeschoten, & Dekker, 2007). However, the small sample size and limiting interactions to phone calls may have affected the lack of statistical significance found by data analysis. Also, three months is a short period for communication between the mentee and mentor. This may not have been enough support to show statistically significant improvements.

Positive feedback from mentors and mentees indicated that the peer mentor program was a success. The participants expressed satisfaction with the current program as implemented. The positive feedback reported from both mentors and mentees is also clinically significant. Five mentees returned the feedback form with overall positive feedback. See Table 5 for a breakdown of questions and response percentages. 80% of the mentees reported it was important the peer mentor program continue at their facility. Four mentees reported learning new information from their mentors, feeling better after talking with their mentor, would recommend other patients on dialysis talk with a mentor, and meeting with a mentor helped them take better care of themselves.

Mentor feedback showed 100% of respondents either “Strongly Agreed” or “Agreed” with all questions on the questionnaire, except one patient indicated no new information was learned from their mentee (Table 6). Mentor feedback also indicated 100% of mentors felt it was essential the peer mentor program continue at their facility. This positive feedback from mentors and mentees provided clinical significance to reducing disease burden, which is especially important for this chronic disease population.

Limitations

Threats to internal validity included the possibility of maturation and selection bias. Selection bias was limited by including a control group. However, selection bias cannot be entirely ruled out due to the nature of participant recruitment. The mentor group was 100% male, while the mentee and comparison groups were 66.7% and 63.3%, respectively. All groups were predominately white, non-Hispanic, and not employed which is representative of the dialysis unit overall.

The number of months on dialysis varied widely within and between the groups. The project was implemented in one privately owned rural outpatient hemodialysis clinic, which maintained a consistent census of 50 patients. The sample size of six mentors, six mentees, and 11 comparison participants was small. The project only allowed for phone calls between mentors and mentees as private space was not available on site for face-to-face interactions.

Lessons Learned: Important Issues to Consider for a Successful Program

Flexible Program Delivery

Although the dialysis center did not have a private space available for confidential face-to-face mentor-mentee interactions, this is an important aspect to consider when implementing a peer mentor program. Written feedback from three mentees, and one mentor indicated interaction options "other than phone calls" would have been beneficial. The method of program delivery must be flexible to meet the needs of the population; however, consistent enough to promote positive patient outcomes (Fisher et al., 2014). Offering a variety of meeting options increases the likelihood of meeting individual patient personality preferences (Fisher et al., 2014). The most prevalent programs offer a combination of face-to-face and telephone combination (Bennett et al., 2018). Face-to-face meetings and telephone calls have been shown to eliminate distance barriers and facilitate diverse methods of contact (Bennett et al., 2018). An initial face-to-face meeting may provide immediate reassurance and support for the mentee, while ongoing monthly telephone calls assist in the development of the mentor-mentee relationship (Bennett et al., 2018). Providing a space that allows for confidential mentor-mentee interactions in addition to phone calls is recommended.

The length of peer mentor programs should also be considered. Extended period programs promote the development of strong personal relationships (Heisler, 2006; Perry et al., 2005). Shorter programs, which do not have objectives to develop strong personal relationships, offer targeted interactions with bidirectional sharing of experiences and support which has been shown to promote positive outcomes in individuals with kidney disease (Taylor et al., 2016). Positive patient outcomes have been associated with peer mentor programs lasting a minimum of eight weeks with mixed methods of program delivery (Joseph, Griffin, Hall, & Sullivan, 2001; MacPherson, Joseph, & Sullivan, 2004; St. Clair Russell, 2017; Sutton & Erlen, 2006). The recommendation is to include a minimum of eight weeks for mentor-mentee interactions while offering a variety of options for contact such as phone calls, face-to-face meetings, and group meetings.

Interdisciplinary Staff Support

Interdisciplinary staff training is necessary to provide support to the mentor-mentee team and for a successful program (Bennett et al., 2018; McCarthy, 2017). An interdisciplinary program team provides oversight and support for the program (Boothroyd & Fisher, 2010; Fisher et al., 2015; Fisher et al., 2014), provides mentor backup to answer clinical questions as needed (Fisher et al., 2014), and recruiting mentors/mentees (Bennett et al., 2018). The supportive staff promotes program success and sustainability (Bennett et al., 2018).

Mentors and mentees were asked by interdisciplinary staff at each dialysis treatment if they had spoken with the respective mentor/mentee. Reports from staff, after inquiring with mentors as stated above, indicated mentors often forgot to call their mentees. Repetitive inquiries from the interdisciplinary staff were needed to ensure at least one monthly phone interaction took place between the mentors and mentees. The recommendation is to adequately train staff to promote and support the peer mentor program at every phase of implementation and to follow-up with the mentor-mentee pair at every treatment to encourage at least once-a-week interactions. Additional recommendation is to utilize the advanced training of an MSW to perform the functions of program coordinator, matching mentor with mentee, mentor training, and program management (Brown, 2006).

Mentor Training

The mentor training is another essential aspect of a successful peer mentor program. Comprehensive mentor training is necessary to prepare the mentor to facilitate the support of a mentee without providing medical advice (Bennett et al., 2018). Key components of mentor training should include communication skills training (Bennett et al., 2018; Collins, 2016; Funnell, 2010; Perry et al., 2003; Radice, 1995), problem solving (Bennett et al., 2018; Collins, 2016; Perry et al., 2003), confidentiality (Bennett et al., 2018; Collins, 2016; Radice, 199), disease knowledge for self-management of symptoms (Bennett et al., 2018; Boothroyd & Fisher, 2010; Fisher et al., 2015; Perry et al., 2003; Radice, 1995), and methods of providing social and emotional support (Boothroyd & Fisher, 2010; Collins, 2016; Fisher et al., 2015; Funnell, 2010). Additional periodic follow-up mentor training sessions are recommended to include monthly sessions during the intervention period and refresher mentor training when a mentor is matched with a new mentee.

Conclusion

In an era of time and financial constraints, methods of increasing patient engagement and self-management of chronic symptoms have many implications for nursing practice. Peer support may reduce health disparities (Adams, Paasse, & Clinch, 2011; Fisher et al., 2015; Perry et al., 2005). Peer mentoring is designed to provide non-hierarchical support from a peer who is currently or has experienced the same disease process and treatments (Bennett et al., 2018). This support system has the potential to cross-cultural barriers and reach the people in most need of help and support (Perry et al., 2005).

Nurse understanding of peer support and the peer mentor program is important to foster the program (Bennett et al., 2018). Nurses may be responsible for providing oversight of the program mentor training. Nurses are needed to provide mentor support, back-up of mentor information or questions, bridging the gap between patients and clinicians, and recruiting mentors/mentees. Sustainability of the peer mentor program is dependent on nursing understanding and support of the program (Bennett et al., 2018).

Policy implications become highlighted as the peer mentor program becomes available world-wide (Fisher et al., 2015). Nursing has the potential to positively influence policy to incorporate peer mentor programs as part of chronic disease management. The policy which supports formal training programs to include community health workers is necessary to train a large workforce to sustain and support peer mentor programs (Fisher et al., 2015). These policy changes have already begun with recommendations from the World Health Organization and the Global Health Workforce Alliance (Global Health Workforce Alliance, 2010).

Once mentors are trained, the program is sustainable. New mentors may be trained at any time depending on facility needs and patient desire. The program is fluid to allow for changes in method of delivery based on personal patient preference. The sustainability of the program increases if all mentors are first expected to participate as a mentee. Having each mentor first participate as a mentee will maintain interest in the program and an influx of mentees/mentors. Support from nursing staff to promote and refer mentees/mentors to the program is essential for sustainability.

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Table 1

Health Care Team Training Topics

- Purpose of the quality improvement project
- Project question and hypothesis
- Overview of kidney disease
- Review of hemodialysis unit values, mission, and goals
- Overview of peer mentor program design for unit
- Peer mentor program benefits are shown in literature
- The necessity of interdisciplinary staff support of the peer mentor program
- Overview of mentor training

(adapted from Quality Insights Renal Network 5, 2018)

Table 2

Mentor Training Modules and Topics

Module 1: Introduction to training (1 hour 45 minutes)
- Ground rules for training
- Describe peer mentor program
- List characteristics of peer mentor
- Describe a mentor-mentee meeting
- Define self-care related to hemodialysis
- Describe hemodialysis unit-specific referral resources

Module 2: Mentor skills and techniques (1 hour 45 minutes)
- Demonstrate mentee-mentor greeting
- Describe professional boundaries
- Formulate open-ended questions
- Explain characteristics of effective listening
- Demonstrate positive feedback such as praise and encouragement
- List skills necessary for positive and productive conversations

Module 3: Practice in pairs (1 hour 45 minutes)
- Demonstrate mentoring skills
    - Active listening
    - Reframing
    - Motivation
    - Self-care tips
    - Confidentiality
    - Seeking assistance from others and unit specific resources
- Receive certificate of training completion

(adapted from Quality Insights Renal Network 5, 2018)

Table 3

Demographics of Participants

	Mentor count (%) n = 6	Mentee count (%) n = 6	Comparison count (%) n = 11
Gender			
- Male	6 (100)	2 (33.3)	4 (36.4)
- Female	0 (0)	4 (66.7)	7 (63.3)
Marital Status			
- Single	0 (0)	1 (16.7)	1 (9.1)
- Married	4 (66.7)	1 (16.7)	5 (45.5)
- Divorced	2 (33.3)	2 (33.3)	1 (9.1)
- Widowed	0 (0)	2 (33.3)	4 (36.4)
Education Level			
- Some high school	0 (0)	1 (16.7)	5 (45.5)
- High school	4 (66.7)	2 (33.3)	0 (0)
- College	2 (33.3)	3 (50)	6 (54.5)
Race			
- White	6 (100)	5 (83.3)	10 (90.9)
- Hispanic	0 (0)	1 (16.7)	0 (0)
- American Indian	0 (0)	0 (0)	1 (9.1)
Ethnicity			
- Non-Hispanic	6 (100)	5 (83.3)	11 (100)
- Hispanic	0 (0)	1 (16.7)	0 (0)
Employment			
- Employed	1 (16.7)	3 (50)	1 (9.1)
- Not employed	5 (83.3)	3 (50)	10 (90.9)
Months on dialysis			
- Minimum	34	0	10
- Maximum	105	11	167
- Average	68.33	6	53

Table 4

KDQOL-36 Scores and Results

Scale	Pre-mean Mentee	Post-mean Mentee	Pre-mean Mentor	Post-mean Mentor	Pre-mean Comparison	Post-mean Comparison
Symptom/problem list	71.18	73.26	90.28	91.67	82.39	80.68
Effects of kidney disease	65.10	72.40	85.42	85.42	85.23	84.09
Burden of kidney disease	50.00	50.00	55.21	59.38	71.02	59.09
Physical health composite	33.09	32.18	39.37	37.96	37.98	36.3
Mental health composite	53.60	57.06	55.68	55.85	54.93	52.55

Note. **Paired samples t-tests mentors:** No statistically significant mean differences found for mentors on symptom/problem list (*p* = 0.705), effects of kidney disease (*p* = 1.00), burden of kidney disease (*p* = 0.691), physical health composite (*p* = 0.707), and mental health composite (*p* = 0.971).

Paired samples t-test mentees: No statistically significant mean differences found for mentees on symptom/problem list (*p* = 0.567), effects of kidney disease (*p* = 0.175), burden of kidney disease (*M* = 0.00, *t* (5) = 0.00, *p* = 1.00), physical health composite (*p* = 0.882), and mental health composite (*p* = 0.151).

ANOVA between group comparison: No statistically significant mean group differences found for mentors, mentees or the comparison group on symptom/problem list (*p* = 0.078), effects of kidney disease (*p* = 0.293), burden of kidney disease (*p* = 0.829), physical health composite (*F* (2, 20) = .495, *p* = 0.617), and mental health composite (*p* = 0.595).

Table 5

Mentee Feedback (n = 5)

Question	**Strongly Agree n (%)**	**Agree n (%)**	**Neither Agree nor Disagree n (%)**	**Disagree n (%)**	**Strongly Disagree n (%)**
The talks I had with my mentor were helpful to me.	3 (60)	2 (40)			
Talking more with my mentor would have been helpful to me.	1 (20)	1 (20)	3 (60)		
My mentor sharing his or her story was helpful to me.	3 (60)	1 (20)	1 (20)		
Meeting with my mentor made it easier to cope with my kidney disease.	2 (40)	1 (20)	2 (40)		
I learned new information from my mentor.	1 (20)	3 (60)		1 (20)	
I felt comfortable talking to my mentor.	2 (40)	3 (60)			
I felt comfortable asking my mentor questions.	3 (60)	2 (40)			
I felt better after talking with my mentor.	2 (40)	2 (40)	1 (20)		
My mentor listened carefully to me.	2 (40)	3 (60)			
I would recommend other dialysis patients talk with a mentor like mine.	3 (60)	1 (20)	1 (20)		
Meeting with my mentor has helped me take better care of myself.	3 (60)	1 (20)		1 (20)	
It is important the Peer Mentor program continue at your facility.	4 (80)	1 (20)			

Table 6

Mentor Feedback (n = 2)

Question	**Strongly Agree n (%)**	**Agree n (%)**	**Neither Agree nor Disagree n (%)**	**Disagree n (%)**	**Strongly Disagree n (%)**
The talks I had with my mentee were helpful to me.	2 (100)				
Working with my mentee helped me feel better.	2 (100)				
Sharing my story was helpful to me.	1 (50)	1 (50)			
Meeting with my mentee made it easier to cope with my kidney disease.	1 (50)	1 (50)			
I learned new information from my mentee.	1 (50)		1 (50)		
Serving as a role model to my mentee made me take better care of myself.	1 (50)	1 (50)			
The mentor training sessions prepared me to be a mentor.		2 (100)			
I have use what I learned in the mentor training sessions to take care of myself.	1 (50)	1 (50)			
It is important the Peer Mentor program continue at your facility.	2 (100)				

Figure 1

Peer Mentor Program Attrition Rates

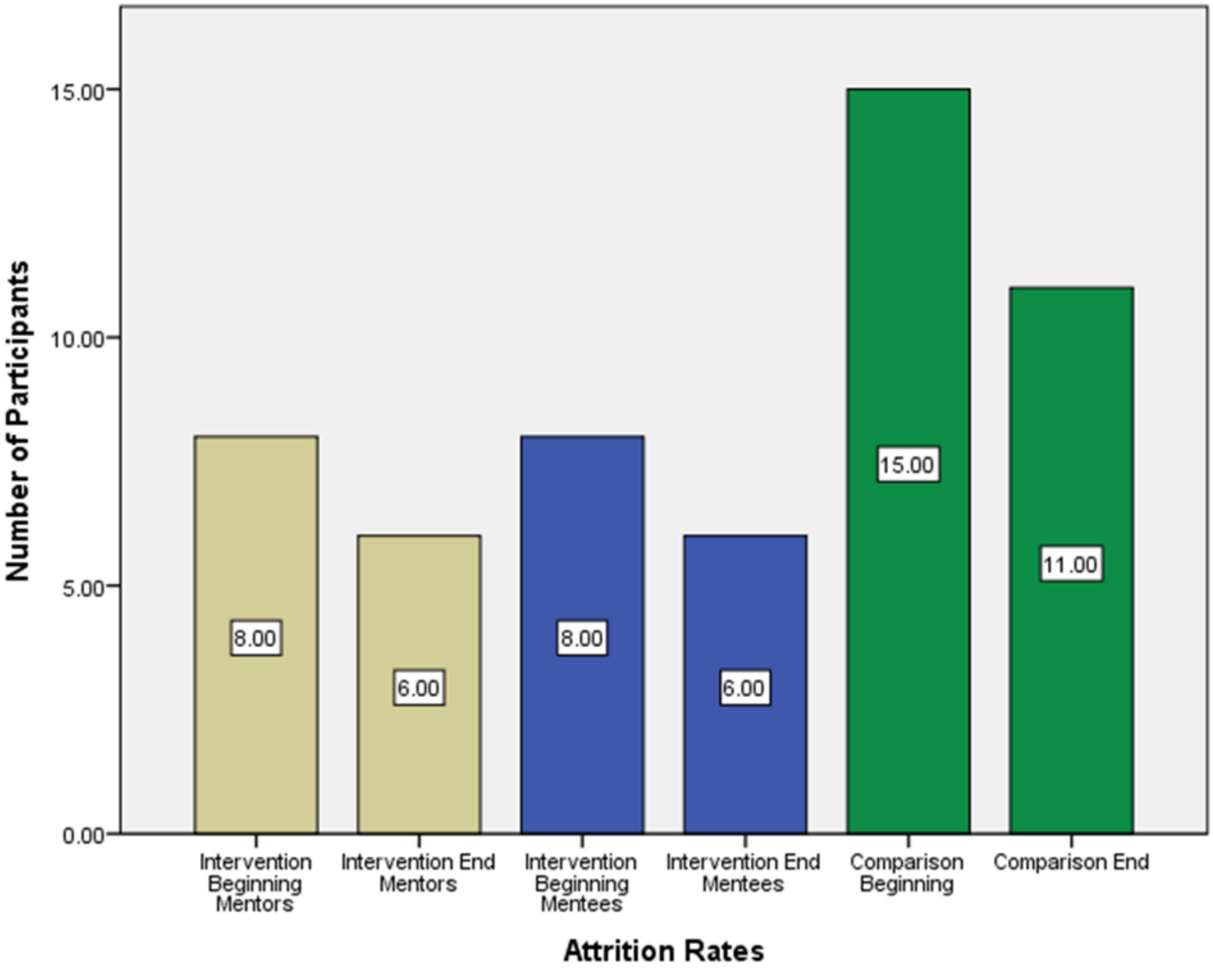


Figure 2

SEMCD Scores

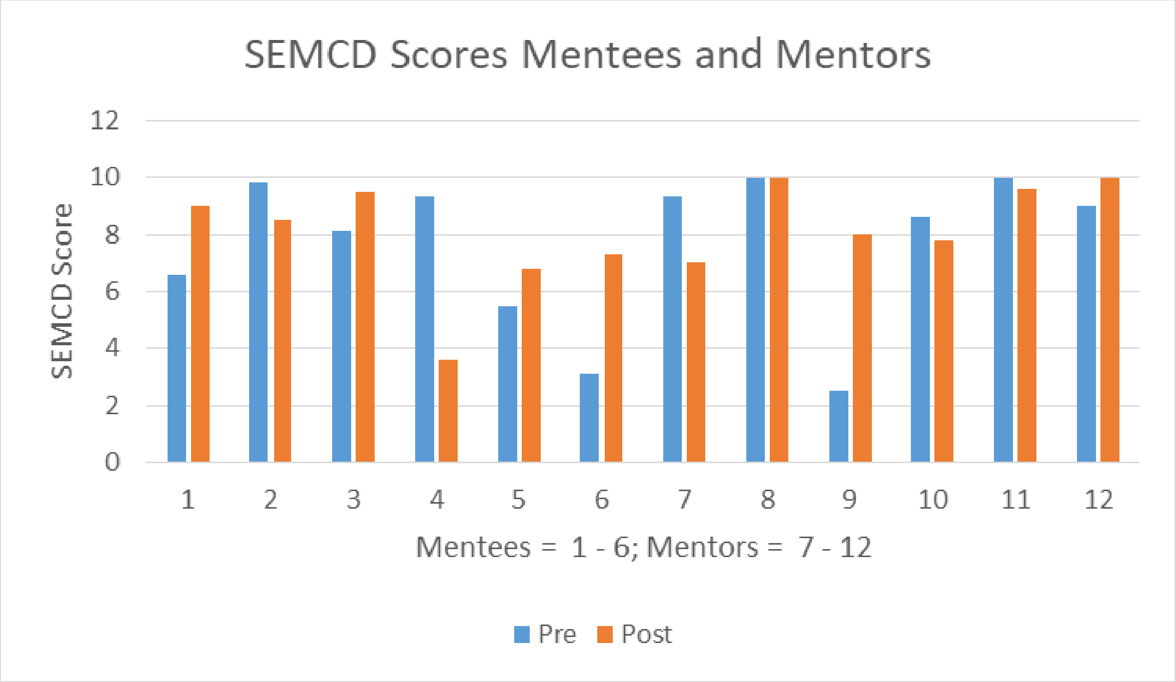
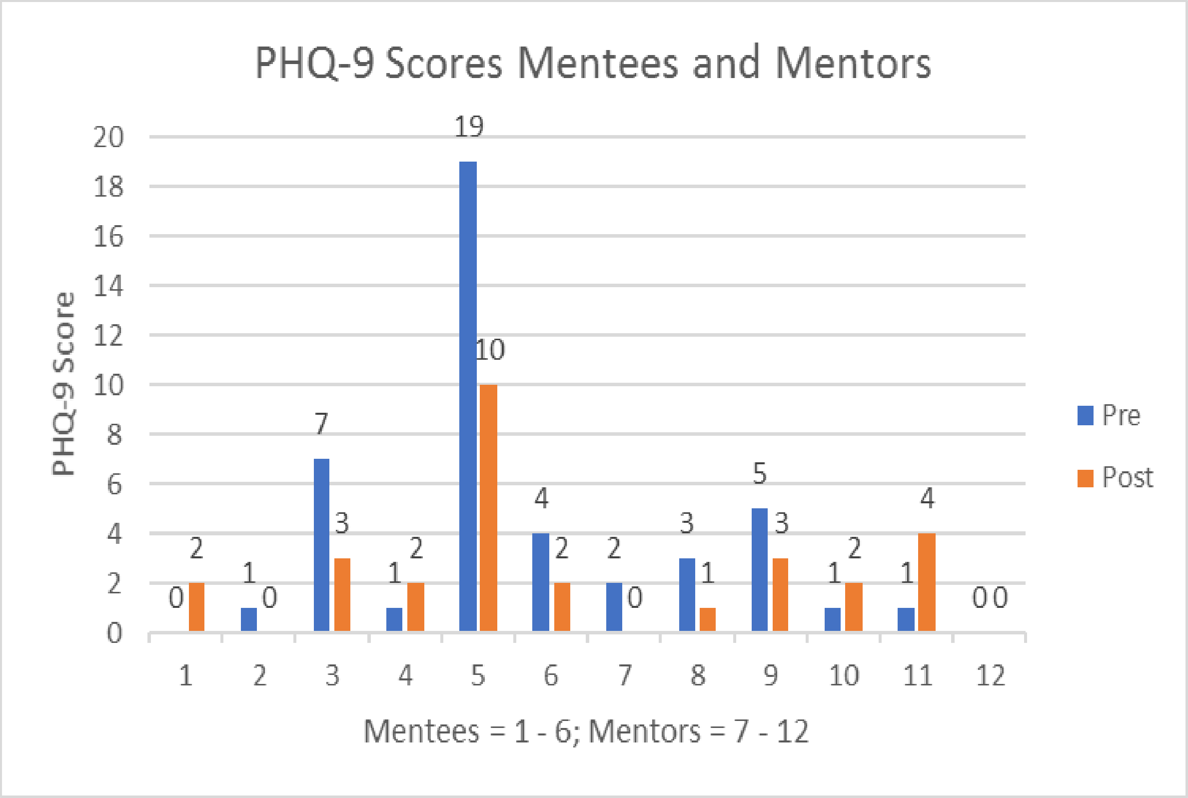


Figure 3

PHQ-9 Scores Mentees and Mentors



Appendix A

THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

January 22nd 2019
Carey Haugen
Department of Nursing
University of Alabama in Huntsville

Dear Mrs. Haugen,

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal, *Peer Mentoring: Improving Health Outcomes in Dialysis Patients,* and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with the institutions Federal Wide Assurance (FWA) 00019998 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Please note that this approval is good for one year from the date on this letter. If data collection continues past this period, you are responsible for processing a renewal application a minimum of 60 days prior to the expiration date.

No changes are to be made to the approved protocol without prior review and approval from the UAH IRB. All changes (e.g. a change in procedure, number of subjects, personnel, study locations, new recruitment materials, study instruments, etc) must be prospectively reviewed and approved by the IRB before they are implemented. You should report any unanticipated problems involving risks to the participants or others to the IRB Chair.

If you have any questions regarding the IRB's decision, please contact me.

Bruce Stallsmith

Bruce Stallsmith
IRB Chair
Professor, Biological Sciences

Appendix B

Facility Approval Letter

Aurora Dialysis

Phone: 701-757-5700
Fax: 701-757-5702
1451 44th Avenue South Suite 104D
Grand Forks, ND 58201

January 9, 2019

Carey Haugen, MS, RN, AGCNS-BC
Doctor of Nursing Practice Student
University of Alabama in Huntsville

Dear Carey,

I am pleased to support your research proposal entitled "Peer Mentoring: Improving Health Outcomes in Dialysis Patients." I give approval for you to recruit potential study participants from Aurora Dialysis.

I look forward to collaborating with you on this work. Please keep me informed of your study planning.

Sincerely,

Julie McGauvran

Julie McGauvran, MSN, RN
Aurora Dialysis Manager

Appendix C

Informed Consent Statement

The Self-Efficacy for managing Chronic Disease and Kidney Disease Quality of Life surveys are completed on paper or computer and do not ask for identifying information. These surveys are anonymous. If you request assistance in completing the survey, your survey will be confidential. All identifying information will be removed and data will be analyzed in aggregate form. All survey responses and aggregate assessment scores will be kept confidential and stored on a secure server. The Principle Investigator is unable to guarantee the security of your computer or responses if completing the survey out of the facility. If results from this research are published, no information that would identify you will be included.

Right to Ask Questions:
The Principle Investigator for this research study is Carey Haugen, MS, RN, AGCNS-BC. You may ask any questions you have regarding the study at this time or at a later date in person or by phone at 701-213-8813.

Please contact The University of Alabama in Huntsville Institutional Review Board at 256-824-6992 if you have questions regarding your rights as a research subject, problems, complaints, or concerns about the research. You may call this number if the Principle Investigator is unable to be reached or you wish to talk to an individual who is not a member of the research team. The Institutional Review Board website contains general information regarding research subjects and may be found at https://www.uah.edu/irb.

Voluntary Participation:
Your participation in this research study is voluntary. You do not have to participate in this study and you may cancel your participation at any time. Participating or not participating in this research study will in no way affect your care at the dialysis center.

You do not have to answer any questions you do not wish to answer.

You must be 18 years of age or older to consent to participate in this research study.

You may contact the Principle Investigator either in writing or verbally to decline or cancel your participation in this study.

Please keep this form for your records or future reference.

Appendix D

Permission Email

Permission Statement:
From: Vinson, Brandy [mailto:BVinson@nw5.esrd.net]
Sent: Wednesday, September 26, 2018 11:01 AM
To: Haugen, Carey <carey.haugen@und.edu>
Cc: Cecil, Heather <HCecil@nw5.esrd.net>
Subject: RE: Peer UP Program Resources

Thank you for your interest in our PeerUp program. Please use our resources as you see fit and adapt as needed, we only request that you state that the materials were adapted from Quality Insights Renal Network 5.

If you have additional questions please let me know. Good luck!
Brandy

Quality Insights
Renal Network 5
Brandy Vinson| Executive Director
804.320.0004 | ext. 2711 | www.esrdnet5.org
Bringing People and Information Together to Improve Health

From: Haugen, Carey [mailto:carey.haugen@und.edu]
Sent: Wednesday, September 26, 2018 10:42 AM
To: ESRD-NW5-Generic
Subject: Peer UP Program Resources

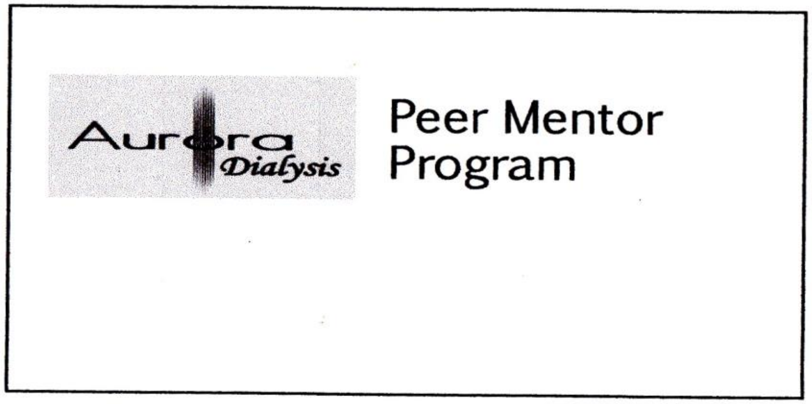
Good Morning,

I am a Doctor of Nursing Practice (DNP) student working with Aurora Dialysis in Renal Network 11 and we would like to start a peer mentor program for our dialysis patients. In doing research for this project, I have read the Peer UP information and resources available on the website. Are these resources copy-righted in any way? We are interested in using the information provided on the website for our mentor training, however, I wanted to check with Renal Network 5/Peer UP Program to determine if these resources may be modified to fit our program without special permission. Thank you for your time.

Carey Haugen, MS, RN, AGCNS-BC

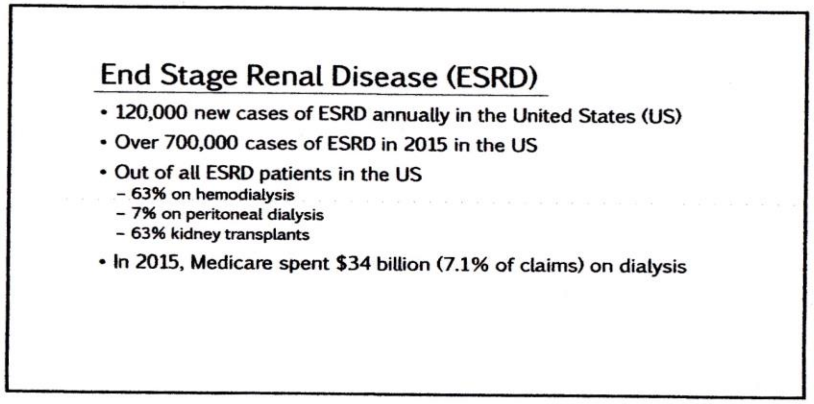
Appendix E

Staff Training Material



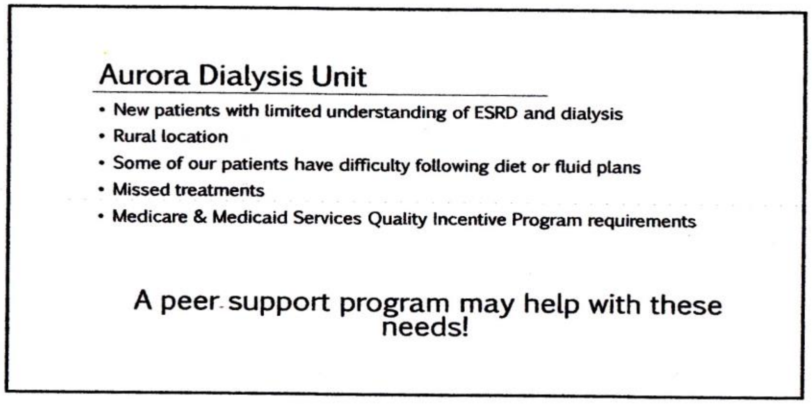
Aurora Dialysis

Peer Mentor Program



End Stage Renal Disease (ESRD)

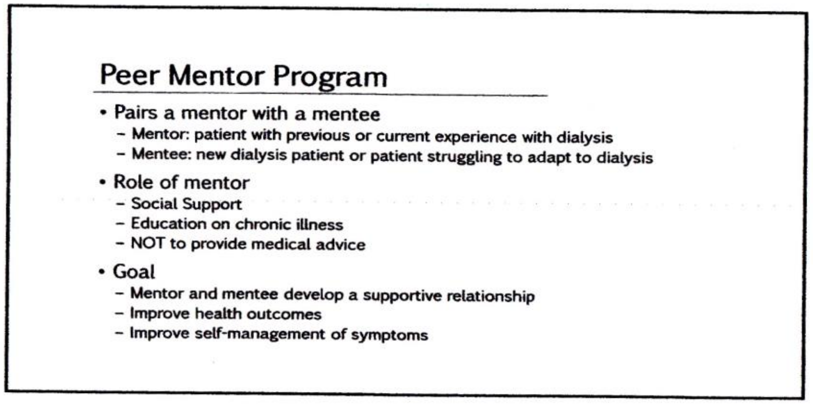
- 120,000 new cases of ESRD annually in the United States (US)
- Over 700,000 cases of ESRD in 2015 in the US
- Out of all ESRD patients in the US
  - 63% on hemodialysis
  - 7% on peritoneal dialysis
  - 63% kidney transplants
- In 2015, Medicare spent $34 billion (7.1% of claims) on dialysis



Aurora Dialysis Unit

- New patients with limited understanding of ESRD and dialysis
- Rural location
- Some of our patients have difficulty following diet or fluid plans
- Missed treatments
- Medicare & Medicaid Services Quality Incentive Program requirements

A peer support program may help with these needs!

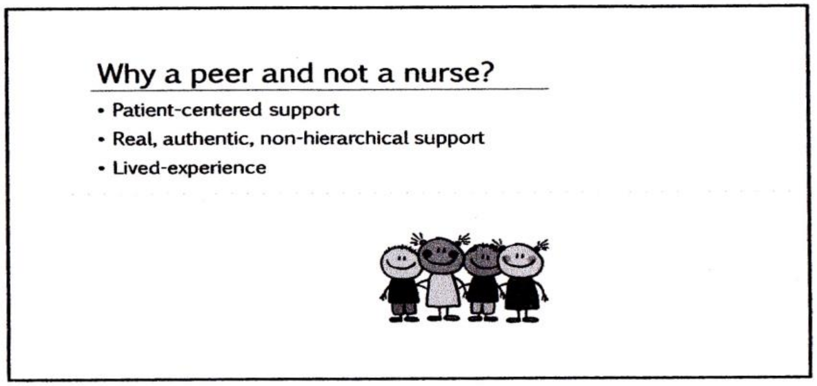


Peer Mentor Program

- Pairs a mentor with a mentee
  - Mentor: patient with previous or current experience with dialysis
  - Mentee: new dialysis patient or patient struggling to adapt to dialysis
- Role of mentor
  - Social Support
  - Education on chronic illness
  - NOT to provide medical advice
- Goal
  - Mentor and mentee develop a supportive relationship
  - Improve health outcomes
  - Improve self-management of symptoms

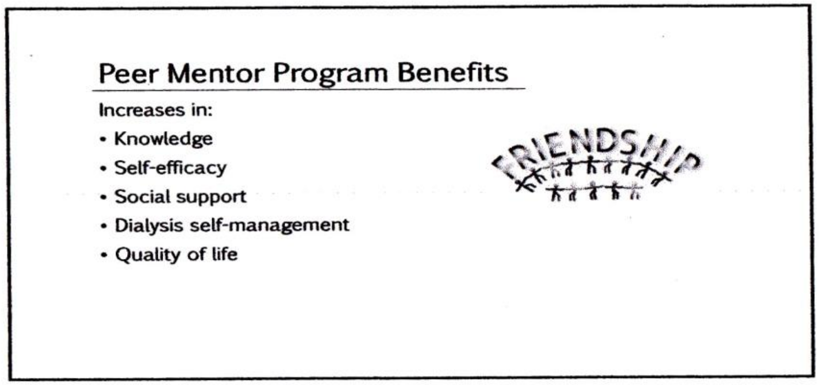
Appendix E

Staff Training Material



Why a peer and not a nurse?

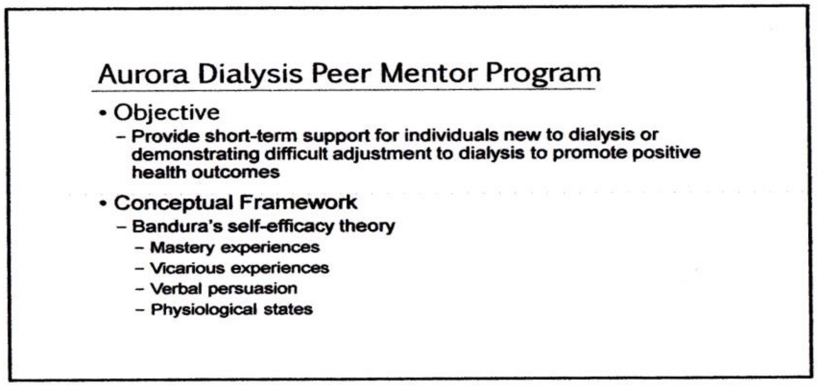
- Patient-centered support
- Real, authentic, non-hierarchical support
- Lived-experience



Peer Mentor Program Benefits

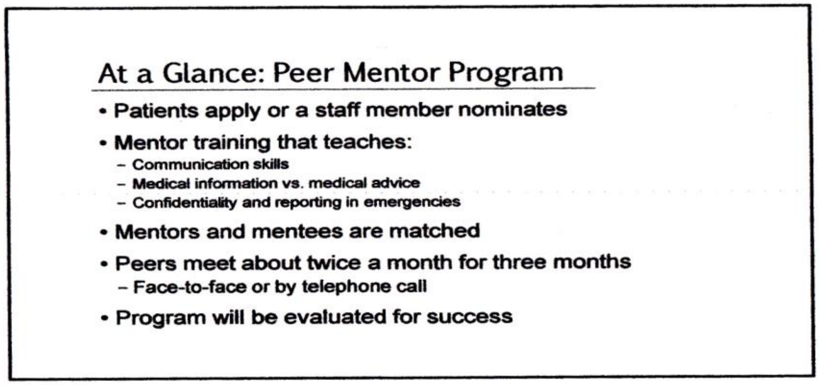
Increases in:

- Knowledge
- Self-efficacy
- Social support
- Dialysis self-management
- Quality of life



Aurora Dialysis Peer Mentor Program

- Objective
  - Provide short-term support for individuals new to dialysis or demonstrating difficult adjustment to dialysis to promote positive health outcomes
- Conceptual Framework
  - Bandura's self-efficacy theory
    - Mastery experiences
    - Vicarious experiences
    - Verbal persuasion
    - Physiological states

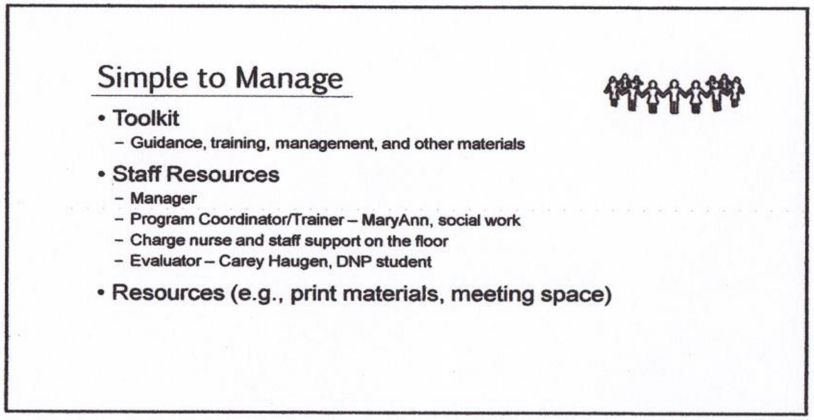


At a Glance: Peer Mentor Program

- Patients apply or a staff member nominates
- Mentor training that teaches:
  - Communication skills
  - Medical information vs. medical advice
  - Confidentiality and reporting in emergencies
- Mentors and mentees are matched
- Peers meet about twice a month for three months
  - Face-to-face or by telephone call
- Program will be evaluated for success

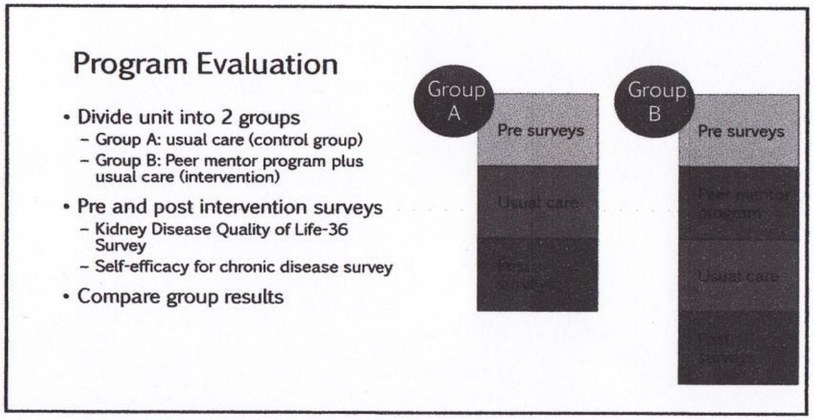
Appendix E

Staff Training Material



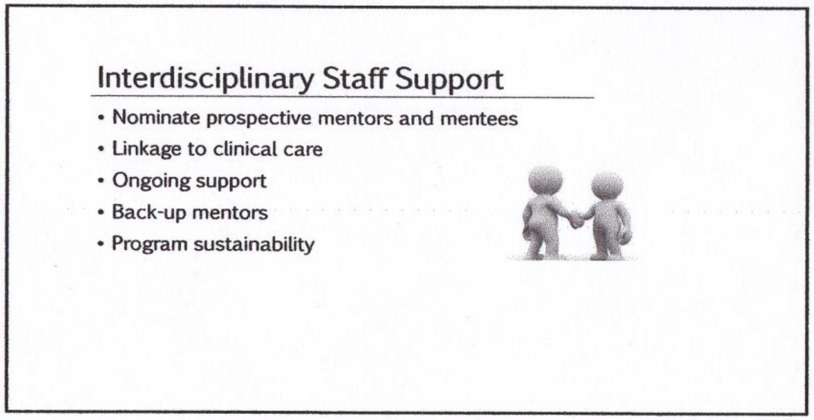
Simple to Manage

- Toolkit
  - Guidance, training, management, and other materials
- Staff Resources
  - Manager
  - Program Coordinator/Trainer – MaryAnn, social work
  - Charge nurse and staff support on the floor
  - Evaluator – Carey Haugen, DNP student
- Resources (e.g., print materials, meeting space)



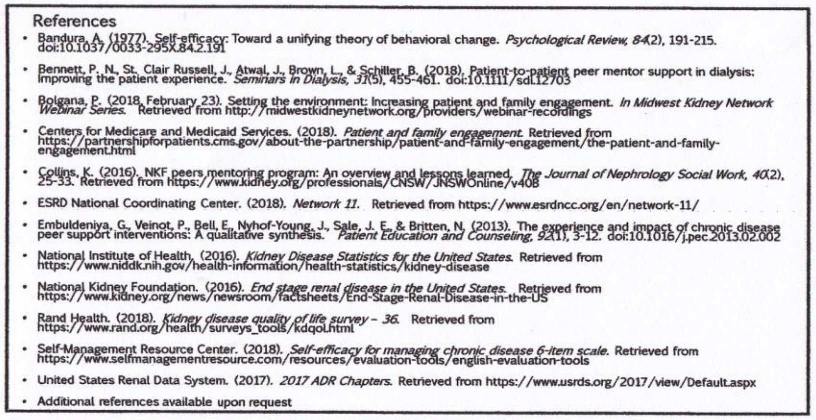
Program Evaluation

- Divide unit into 2 groups
  - Group A: usual care (control group)
  - Group B: Peer mentor program plus usual care (intervention)
- Pre and post intervention surveys
  - Kidney Disease Quality of Life-36 Survey
  - Self-efficacy for chronic disease survey
- Compare group results



Interdisciplinary Staff Support

- Nominate prospective mentors and mentees
- Linkage to clinical care
- Ongoing support
- Back-up mentors
- Program sustainability



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- Additional references available upon request

Appendix F

Recruitment Script

You are invited to participate in a research study about peer mentoring. This study is designed to help us to better understand peer mentoring on dialysis patient's self-efficacy, quality of life, and symptoms of depression. The study will match a mentor with a mentee. The mentor should be a person with dialysis experience and who feels well-adjusted to the demands of kidney disease. A mentee is usually a person new to dialysis or having difficulty adjusting to kidney disease.
Are you interested in being a mentor or a mentee?

Mentors: We are very happy you are interested in being a mentor! As a mentor, you will provide social support and guidance without providing medical advice to a mentee. The program requires a minimum of twice monthly interactions with your mentee, by phone for four months. We will be conducting training on [INSERT DATE] to prepare you to be a mentor. In addition to a fun, interactive training by our staff where you'll learn more about dialysis and how to mentor others, you will also get to speak with and learn from other dialysis patients who will also be mentors. If you are still interested, I have an informed consent statement for you to read about the study and an application for the peer mentor program for you to fill out. Please return the application form to Mary Ann in Social Work by the end of the week.

Mentees: We are very happy you are interested in being a mentee. As a mentee, you will be matched with a mentor based on similarities. The mentor will have special training in mentoring and providing social support to help you take care of yourself while you are receiving dialysis treatments. The program requires a minimum of twice monthly interactions with your mentor by phone for four months. If you are still interested, I have an informed consent statement for you to read about the study and an application for the peer mentor program for you to fill out. Please return the application form to Mary Ann in Social Work by the end of the week.

Not a mentor or a mentee: We would still like you to participate in the study. If you are still interested in being part of the study, but not part of the peer mentor program, I have an informed consent statement for you to read about the study.

Participation in the research study is voluntary and refusal to participate will not change the process or quality of your care. We look forward to working with you over the next four months of the peer mentor program and know that you will find the experience to be informative and rewarding. If you have any questions, please contact me at 701-213-8813.
(Adapted from Quality Insights Renal Network 5, 2018)

Appendix G

Peer Mentor Program Application

hank you for your interest in the Peer Mentor program. Please answer the questions on this application as best as you can. This will help us pair you with another participant. Please note that your answers will be kept confidential in accordance with HIPAA laws.

Name:____ Phone: ______________________

1. What days do you have dialysis treatments?

☐ Monday, Wednesday, Friday ☐ Tuesday, Thursday, Saturday

2. Do you have a Catheter for dialysis treatments? ☐ Yes ☐ No

3. Do you have children or grandchildren at home? ☐ Yes ☐ No

4. Do you have pets? ☐ Yes ☐ No

5. Who prepares your meals? (Check all that apply)

☐ Myself ☐ Family ☐ Caretaker ☐ Other

____

6. Please list your interests, hobbies, commitments, activities, and any other information you feel will help us pair you with another patient: ____

7. Are you interested in being a: ☐ **Mentee** ☐ **Mentor**

(Adapted from Quality Insights Renal Network 5, 2018)

Appendix H

Mentor Guide

Mentors should

- Meet with mentees at least twice a month, either face-to-face or over the telephone
- Listen and show support
- Share tips and experience

SAMPLE PEER TIME

Greetings and welcome

Thank the mentee for making time to join you and caring about his or her health.

Ask about self-care in past week

- Fluids
- Diet
- Medications
- Attending all dialysis treatments
- Staying for the full treatment time

Point out and congratulate good self-care

- ASK: "What has gone well since we talked?"

Check in about expectations

- ASK: "How can I help you?"

Talk about one concern or challenge and how to address it

- ASK: "What makes it hard for you to do that?"

Remember: Share tips from your experience

BE A GOOD LISTENER

- Remember your body language
- Look at your mentee's face
- Make eye contact
- Nod your head when you can relate or feel you understand what they are saying

GET HELP

- Go to the charge nurse right away if your mentee:
- Has questions about lab tests, medications, or other medical issues
- Seems unwell, sick, or unkempt
- Has problems with his or her vascular access

Ask open-ended questions

Show you are listening

- Repeat
- Rephrase in your own words
- Ask for more details

If the conversation becomes difficult

- Point out feelings
- Find the positive

Remind the mentee that small steps can make a big difference! Think of some small steps together.

Appendix H

Mentor Guide

- Change the topic
- Take a break and find another time to talk

DON’T give medical advice or wrong information

- If you are unsure ask a charge nurse.

Keep discussions private

- Explain confidentiality to your mentee
- DON’T talk about your mentee with other patients, friends, or relatives

MOTIVATE AND BUILD CONFIDENCE

- Discuss reasons for good self-care
- To feel better
- For spouse or family
- To enjoy hobbies or interests
- For other things he or she cares about
- Talk about how you stay confident and motivated to take care of yourself
- Offer support and encourage the mentee to check in with his or her health care team with questions

DON’T share or ask about

- Family or personal matters
- Finances or employment
-

Help the mentee pick something to work on

- Plan ahead for one change
- Try one small step from diet or fluid plan
- Repeat a past success
- Talk with a supportive friend or relative
- Review information on a topic of interest (offer your mentee material available at the facility)

STAY PROFESSIONAL
DO

- Share your experiences with staying in treatment, managing fluids, eating certain foods, taking your medications, and asking for help

Schedule a follow-up time to talk by phone or in person.
(Adapted from Quality Insights Renal Network 5, 2018)

Appendix I

Mentor Log

Mentor name: ____

Mentee name: ____________________________ Date: ______________

What was the length of your interaction? ___________________________

How did you and your mentee meet?

- ☐ By telephone
- ☐ Other

What did you and your mentee talk about?

- ☐ Fluid control
- ☐ Dietary restrictions
- ☐ Medications
- ☐ Vascular access
- ☐ Hospitalization
- ☐ Attending treatments as scheduled
- ☐ Staying for full treatments
- ☐ General dialysis information
- ☐ Other ____

What materials did you use?

- ☐ Information provided by the Peer Mentor program
- ☐ Other information from facility
- ☐ Other ____

Did you suggest your mentee talk with anyone? YES NO

If yes, with whom?

- ☐ Charge nurse
- ☐ Dietitian
- ☐ Nurse/Technician
- ☐ Social Work
- ☐ Nephrologist
- ☐ Other ____

Did you talk to anyone about your peer mentor time? YES NO

If yes, with whom?

- ☐ Charge nurse
- ☐ Dietitian
- ☐ Nurse/Technician
- ☐ Social Work
- ☐ Nephrologist
- ☐ Other ____

When will you and your mentee meet again?________________________

(Adapted from Quality Insights Renal Network 5, 2018)

Appendix J

Mentee Log

Mentor name: ____

Mentee name: ________________________________ **Date:** ______________

What was the length of your interaction? ________________________________

How did you and your mentee meet?

- ☐ By telephone
- ☐ Other

What did you and your mentee talk about?

- ☐ Fluid control
- ☐ Dietary restrictions
- ☐ Medications
- ☐ Vascular access
- ☐ Hospitalization
- ☐ Attending treatments as scheduled
- ☐ Staying for full treatments
- ☐ General dialysis information
- ☐ Other ____

Did your mentor suggest you talk with anyone? YES NO

If yes, with whom?

- ☐ Charge nurse
- ☐ Dietitian
- ☐ Nurse/Technician
- ☐ Social Work
- ☐ Nephrologist
- ☐ Other ____

Did you talk to anyone about your peer mentor time? YES NO

If yes, with whom?

- ☐ Charge nurse
- ☐ Dietitian
- ☐ Nurse/Technician
- ☐ Social Work
- ☐ Nephrologist
- ☐ Other ____

When will you and your mentor meet again?______________________________

(Adapted from Quality Insights Renal Network 5, 2018)

Appendix K

Mentor Feedback Form

Overall, how would you rate your experience with your mentee?

- ☐Excellent
- ☐Very Good
- ☐Good
- ☐Fair
- ☐Poor

Please circle the number that matches how much you agree or disagree with each of the following statements.

	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**
The talks I had with my mentee were helpful to me.	5	4	3	2	1
Working with my mentee helped me feel better.	5	4	3	2	1
Sharing my story was helpful to me.	5	4	3	2	1
Meeting with my mentee made it easier to cope with my kidney disease.	5	4	3	2	1
I learned new information from my mentee.					
Serving as a role model to my mentee made me take better care of myself.					
I helped my mentee learn to take better care of himself or herself.					
The mentor training sessions prepared me to be a mentor.					
I have used what I learned in the mentor training sessions to take care of myself.					

Did talking with your mentee encourage you to think about other treatments for kidney failure?

☐ Yes

☐ No

If yes, what other treatments have you thought about?

☐ Transplant

☐ Home hemodialysis

☐ Peritoneal dialysis

☐ Other: ________________________________

What did you like most about meeting with your mentee?

What did you like least about meeting with your mentee?

Please list at least one thing you learned from your mentee that you have used to take care of yourself.

How likely is it that you will continue to meet with your mentee?

☐Extremely likely

☐Likely

☐Neither unlikely or likely

☐Unlikely

☐Extremely unlikely

On a scale of 1 to 7, with 1 being not at all important and 7 being extremely important, how important is it to you that the Peer Mentor program continue at your facility?

1 2 3 4 5 6 7

What other suggestions or thoughts do you have about your experience?

(Adapted from Quality Insights Renal Network 5, 2018)

Appendix L

Mentee Feedback Form

Overall, how would you rate your experience with your mentee?

- ☐Excellent
- ☐Very Good
- ☐Good
- ☐Fair
- ☐Poor

Please circle the number that matches how much you agree or disagree with each of the following statements.

	Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**
The talks I had with my mentor were helpful to me.	5	4	3	2	1
Talking more with my mentor would have been helpful to me.	5	4	3	2	1
My mentor sharing his or her story was helpful to me.	5	4	3	2	1
Meeting with my mentor made it easier to cope with my kidney disease.	5	4	3	2	1
I learned new information from my mentor.	5	4	3	2	1
I felt comfortable talking to my mentor.	5	4	3	2	1
I felt comfortable asking my mentor questions.	5	4	3	2	1
I felt better after talking with my mentor.	5	4	3	2	1
My mentor listened carefully to me.	5	4	3	2	1
My mentor was available to me.	5	4	3	2	1
I would recommend other dialysis patients talk with a	5	4	3	2	1

mentor like mine.					
Meeting with my mentor has helped me take better care of myself.	5	4	3	2	1

Did talking with your mentee encourage you to think about other treatments for kidney failure?

☐ Yes

☐ No

If yes, what other treatments have you thought about?

☐ Transplant

☐ Home hemodialysis

☐ Peritoneal dialysis

☐ Other: ___________________________________

What did you like most about meeting with your mentee?

What did you like least about meeting with your mentee?

Please list at least one thing you learned from your mentee that you have used to take care of yourself.

How likely is it that you will continue to meet with your mentee?

☐Extremely likely

☐Likely

☐Neither unlikely or likely

☐Unlikely

☐Extremely unlikely

On a scale of 1 to 7, with 1 being not at all important and 7 being extremely important, how important is it to you that the Peer Mentor program continue at your facility?

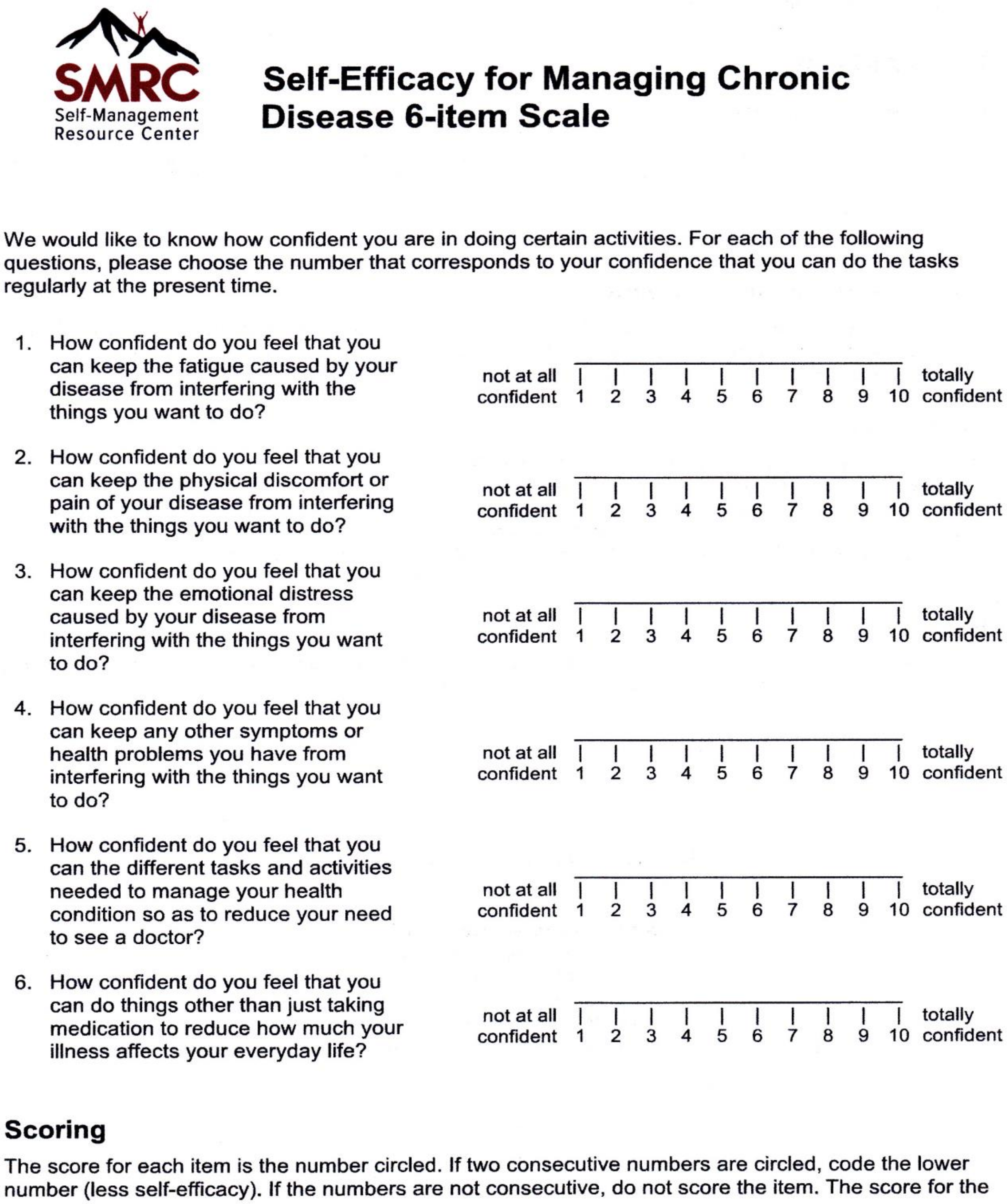
1 2 3 4 5 6 7

What other suggestions or thoughts do you have about your experience?

(Adapted from Quality Insights Renal Network 5, 2018)

Appendix M

Self-Efficacy for Managing Chronic Disease 6-Item Scale



SMRC
Self-Management
Resource Center

Self-Efficacy for Managing Chronic Disease 6-item Scale

We would like to know how confident you are in doing certain activities. For each of the following questions, please choose the number that corresponds to your confidence that you can do the tasks regularly at the present time.

1. How confident do you feel that you can keep the fatigue caused by your disease from interfering with the things you want to do?

   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

2. How confident do you feel that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?

   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

3. How confident do you feel that you can keep the emotional distress caused by your disease from interfering with the things you want to do?

   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

4. How confident do you feel that you can keep any other symptoms or health problems you have from interfering with the things you want to do?

   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

5. How confident do you feel that you can the different tasks and activities needed to manage your health condition so as to reduce your need to see a doctor?

   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

6. How confident do you feel that you can do things other than just taking medication to reduce how much your illness affects your everyday life?

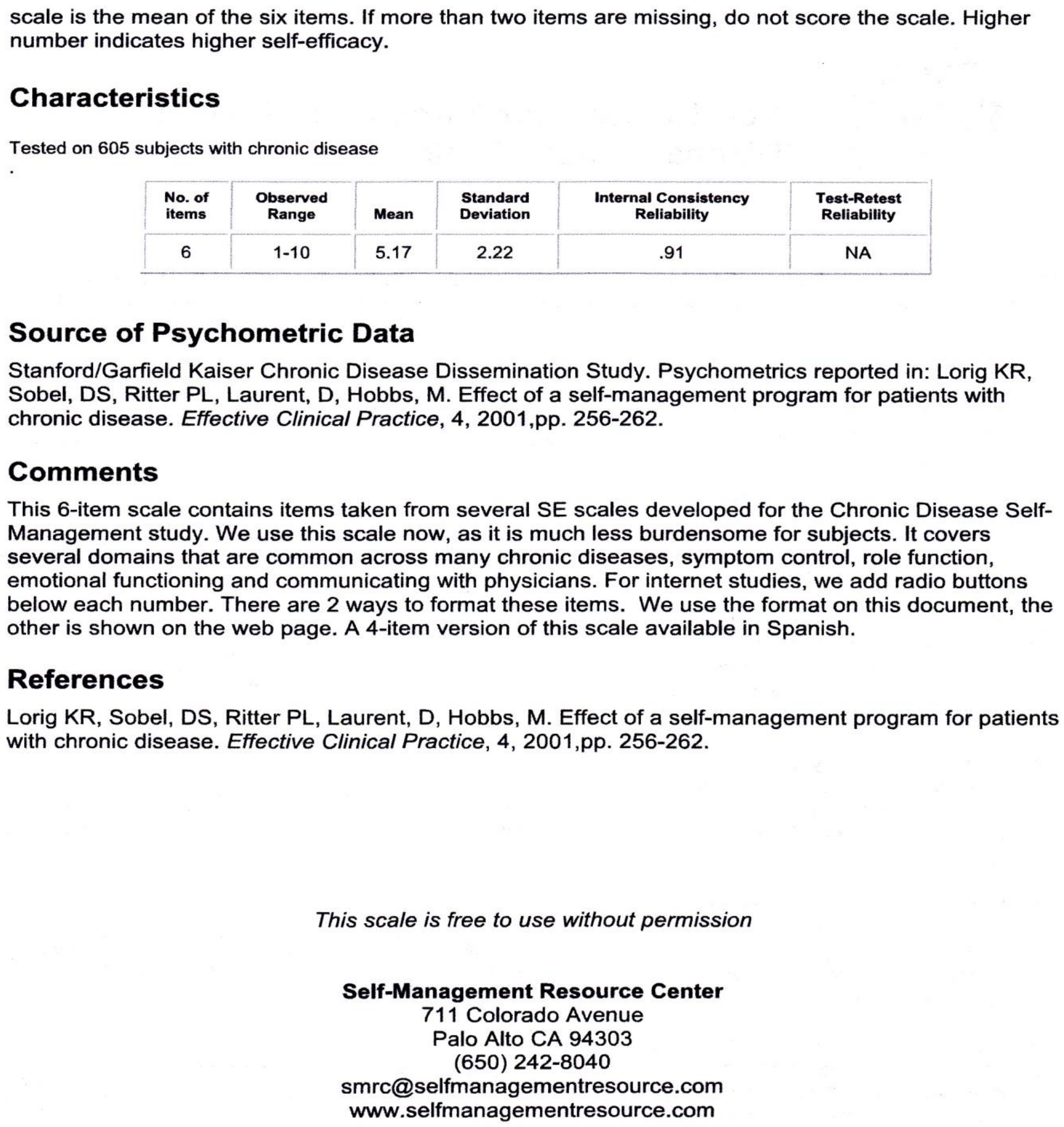
   not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

Scoring

The score for each item is the number circled. If two consecutive numbers are circled, code the lower number (less self-efficacy). If the numbers are not consecutive, do not score the item. The score for the

Appendix M

Self-Efficacy for Managing Chronic Disease 6-Item Scale



scale is the mean of the six items. If more than two items are missing, do not score the scale. Higher number indicates higher self-efficacy.

Characteristics

Tested on 605 subjects with chronic disease

.

No. of items	Observed Range	Mean	Standard Deviation	Internal Consistency Reliability	Test-Retest Reliability
6	1-10	5.17	2.22	.91	NA

Source of Psychometric Data

Stanford/Garfield Kaiser Chronic Disease Dissemination Study. Psychometrics reported in: Lorig KR, Sobel, DS, Ritter PL, Laurent, D, Hobbs, M. Effect of a self-management program for patients with chronic disease. *Effective Clinical Practice*, 4, 2001,pp. 256-262.

Comments

This 6-item scale contains items taken from several SE scales developed for the Chronic Disease Self-Management study. We use this scale now, as it is much less burdensome for subjects. It covers several domains that are common across many chronic diseases, symptom control, role function, emotional functioning and communicating with physicians. For internet studies, we add radio buttons below each number. There are 2 ways to format these items. We use the format on this document, the other is shown on the web page. A 4-item version of this scale available in Spanish.

References

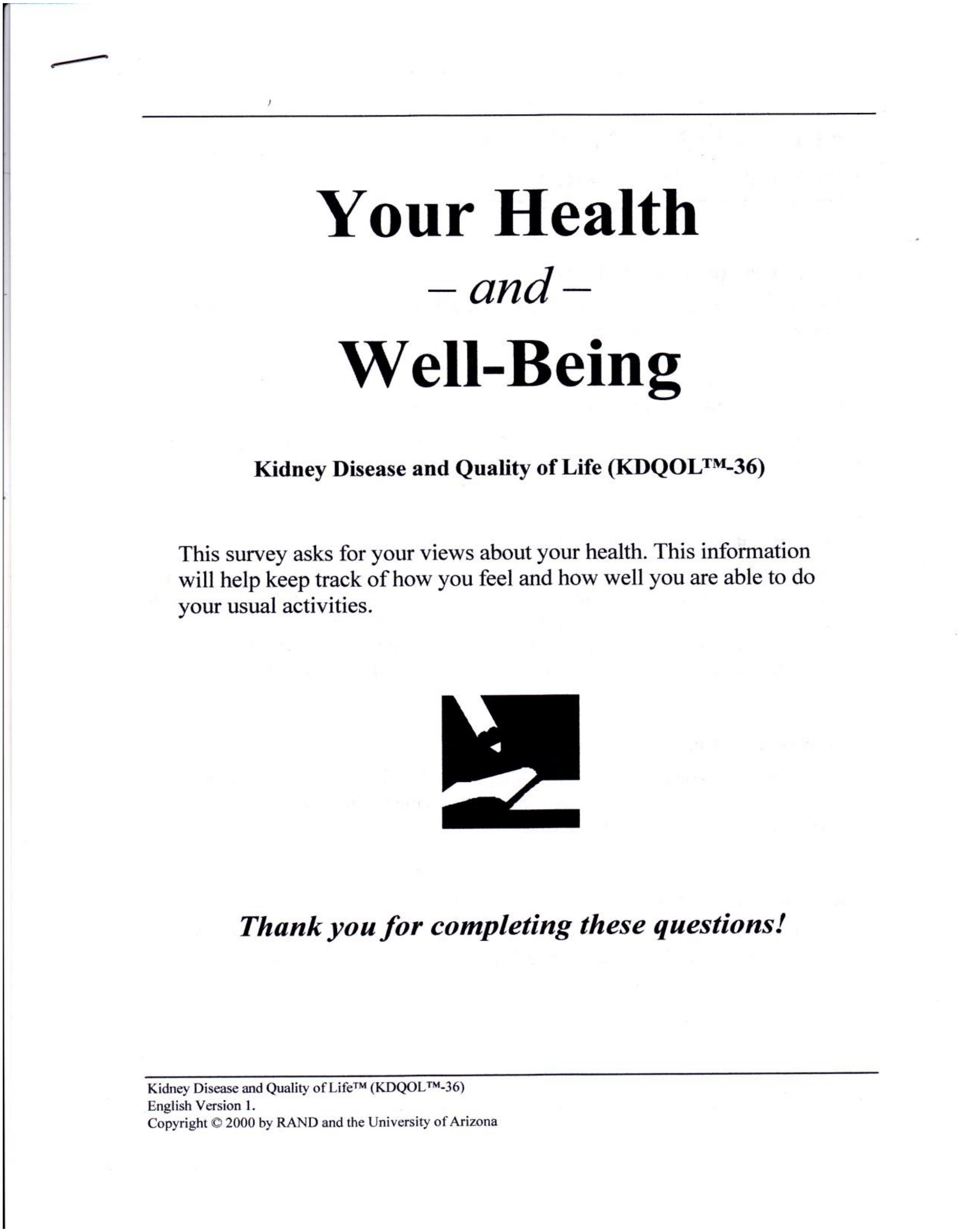
Lorig KR, Sobel, DS, Ritter PL, Laurent, D, Hobbs, M. Effect of a self-management program for patients with chronic disease. *Effective Clinical Practice*, 4, 2001,pp. 256-262.

This scale is free to use without permission

Self-Management Resource Center
711 Colorado Avenue
Palo Alto CA 94303
(650) 242-8040
smrc@selfmanagementresource.com
www.selfmanagementresource.com

Appendix N

Kidney Disease Quality of Life – 36



Your Health
– *and* –
Well-Being

Kidney Disease and Quality of Life (KDQOL™-36)

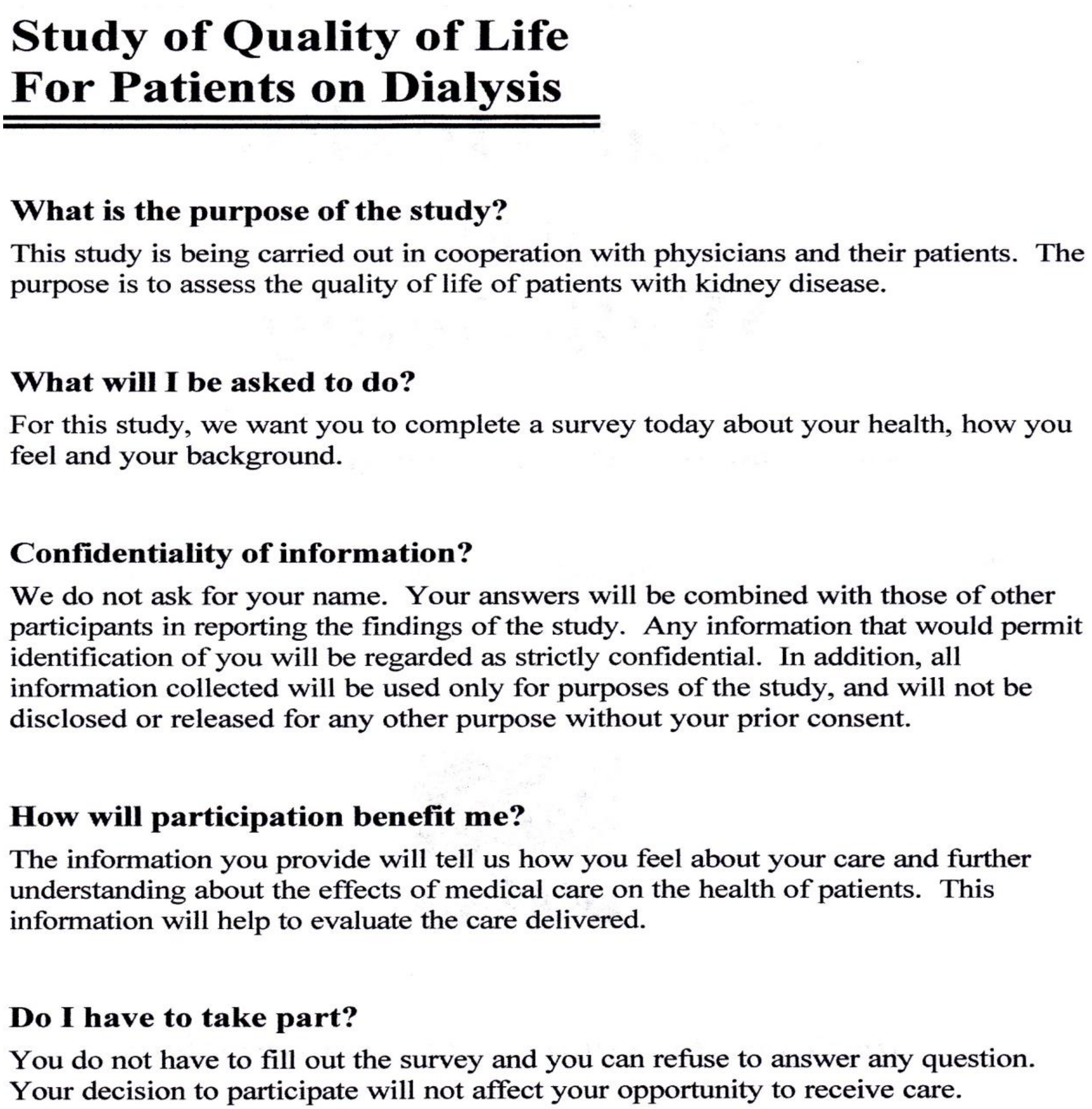
This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Thank you for completing these questions!

Kidney Disease and Quality of Life™ (KDQOL™-36)
English Version 1.

Appendix N

Kidney Disease Quality of Life – 36



Study of Quality of Life For Patients on Dialysis

What is the purpose of the study?

This study is being carried out in cooperation with physicians and their patients. The purpose is to assess the quality of life of patients with kidney disease.

What will I be asked to do?

For this study, we want you to complete a survey today about your health, how you feel and your background.

Confidentiality of information?

We do not ask for your name. Your answers will be combined with those of other participants in reporting the findings of the study. Any information that would permit identification of you will be regarded as strictly confidential. In addition, all information collected will be used only for purposes of the study, and will not be disclosed or released for any other purpose without your prior consent.

How will participation benefit me?

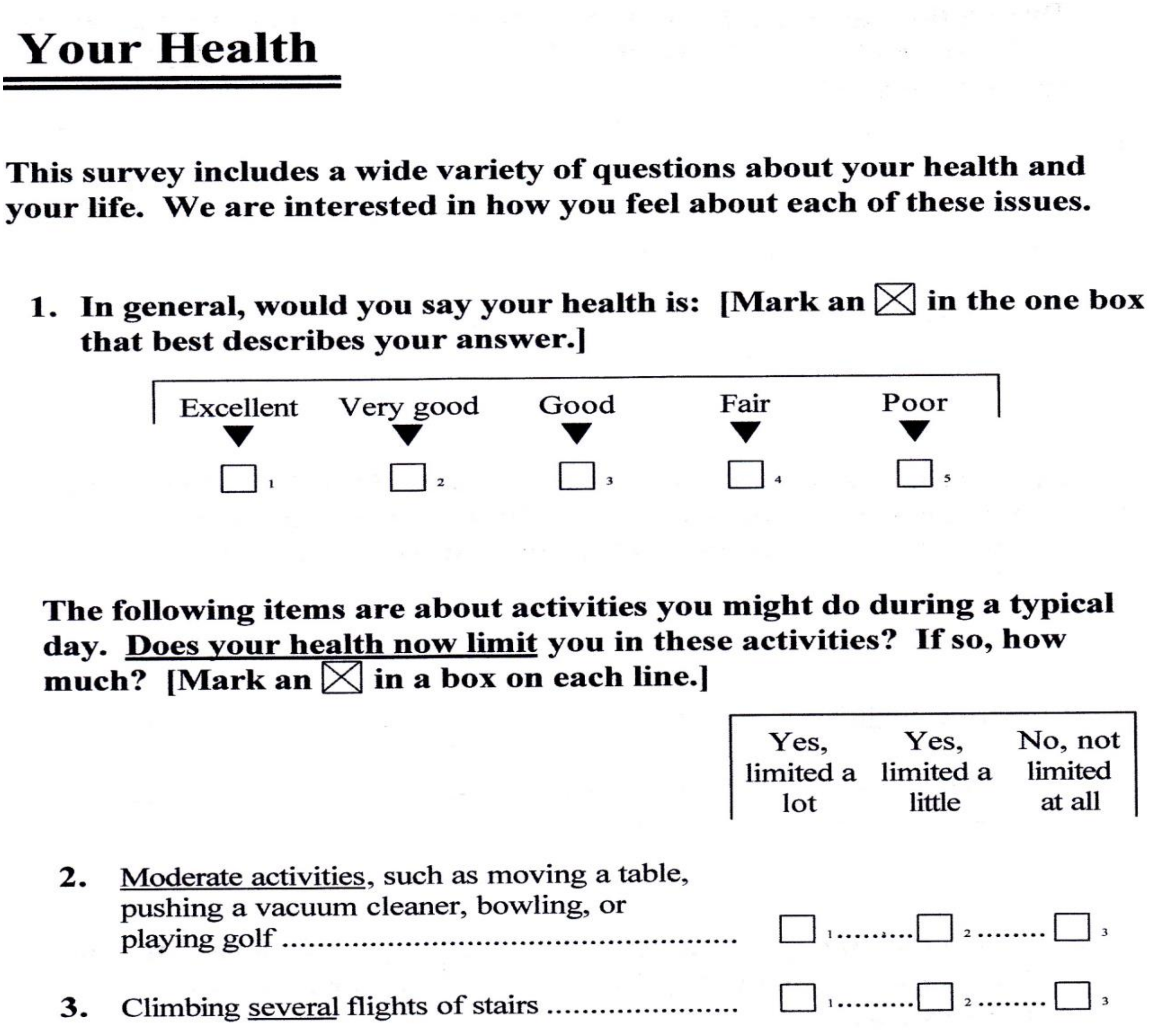
The information you provide will tell us how you feel about your care and further understanding about the effects of medical care on the health of patients. This information will help to evaluate the care delivered.

Do I have to take part?

You do not have to fill out the survey and you can refuse to answer any question. Your decision to participate will not affect your opportunity to receive care.

Appendix N

Kidney Disease Quality of Life – 36



Your Health

This survey includes a wide variety of questions about your health and your life. We are interested in how you feel about each of these issues.

1. In general, would you say your health is: [Mark an ☒ in the one box that best describes your answer.]

Excellent	Very good	Good	Fair	Poor
▼	▼	▼	▼	▼
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The following items are about activities you might do during a typical day. <u>Does your health now limit</u> you in these activities? If so, how much? [Mark an ☒ in a box on each line.]

	Yes, limited a lot	Yes, limited a little	No, not limited at all
2. <u>Moderate activities</u>, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐ 1	☐ 2	☐ 3
3. Climbing <u>several</u> flights of stairs	☐ 1	☐ 2	☐ 3

Appendix N

Kidney Disease Quality of Life – 36

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	Yes ▼	No ▼
4. Accomplished less than you would like................	☐ 1	.... ☐ 2
5. Were limited in the kind of work or other activities	☐ 1	.... ☐ 2

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	Yes ▼	No ▼
6. Accomplished less than you would like................	☐ 1	.... ☐ 2
7. Didn't do work or other activities as carefully as usual	☐ 1	.... ☐ 2

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at all ▼	A little bit ▼	Moderately ▼	Quite a bit ▼	Extremely ▼
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Appendix N

Kidney Disease Quality of Life – 36

These questions are about how you feel and how things have been with you __during the past 4 weeks__. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the __past 4 weeks__…

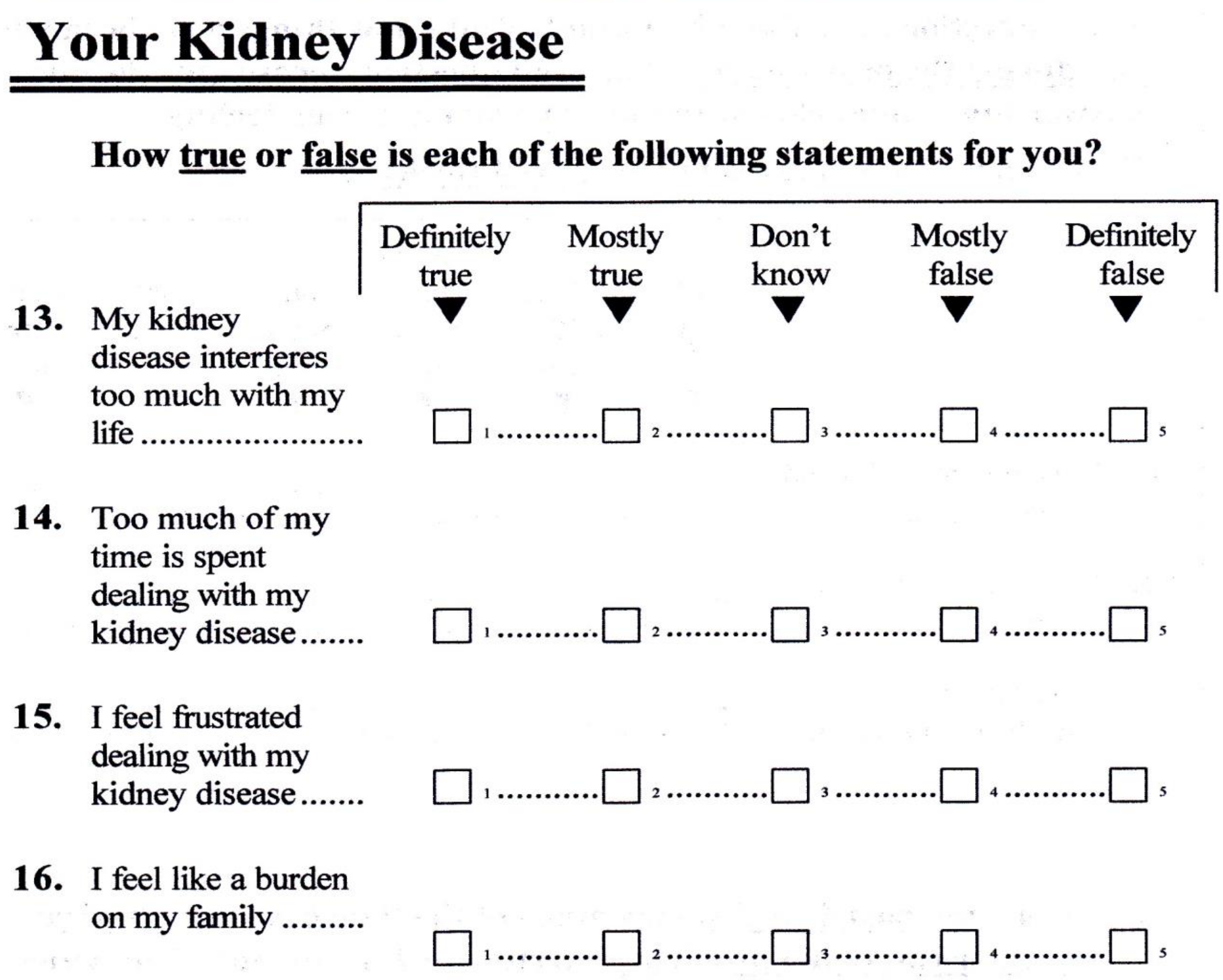
	All of the time ▼	Most of the time ▼	A good bit of the time ▼	Some of the time ▼	A little of the time ▼	None of the time ▼
9. Have you felt calm and peaceful?......................	☐ 1........	☐ 2	☐ 3........	☐ 4	☐ 5.......	☐ 6
10. Did you have a lot of energy?	☐ 1........	☐ 2	☐ 3........	☐ 4	☐ 5.......	☐ 6
11. Have you felt downhearted and blue? .	☐ 1........	☐ 2	☐ 3........	☐ 4	☐ 5.......	☐ 6

12. During the __past 4 weeks__, how much of the time has your __physical health or emotional problems__ interfered with your social activities (like visiting with friends, relatives, etc.)?

All of the time ▼	Most of the time ▼	Some of the time ▼	A little of the time ▼	None of the time ▼
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Appendix N

Kidney Disease Quality of Life – 36



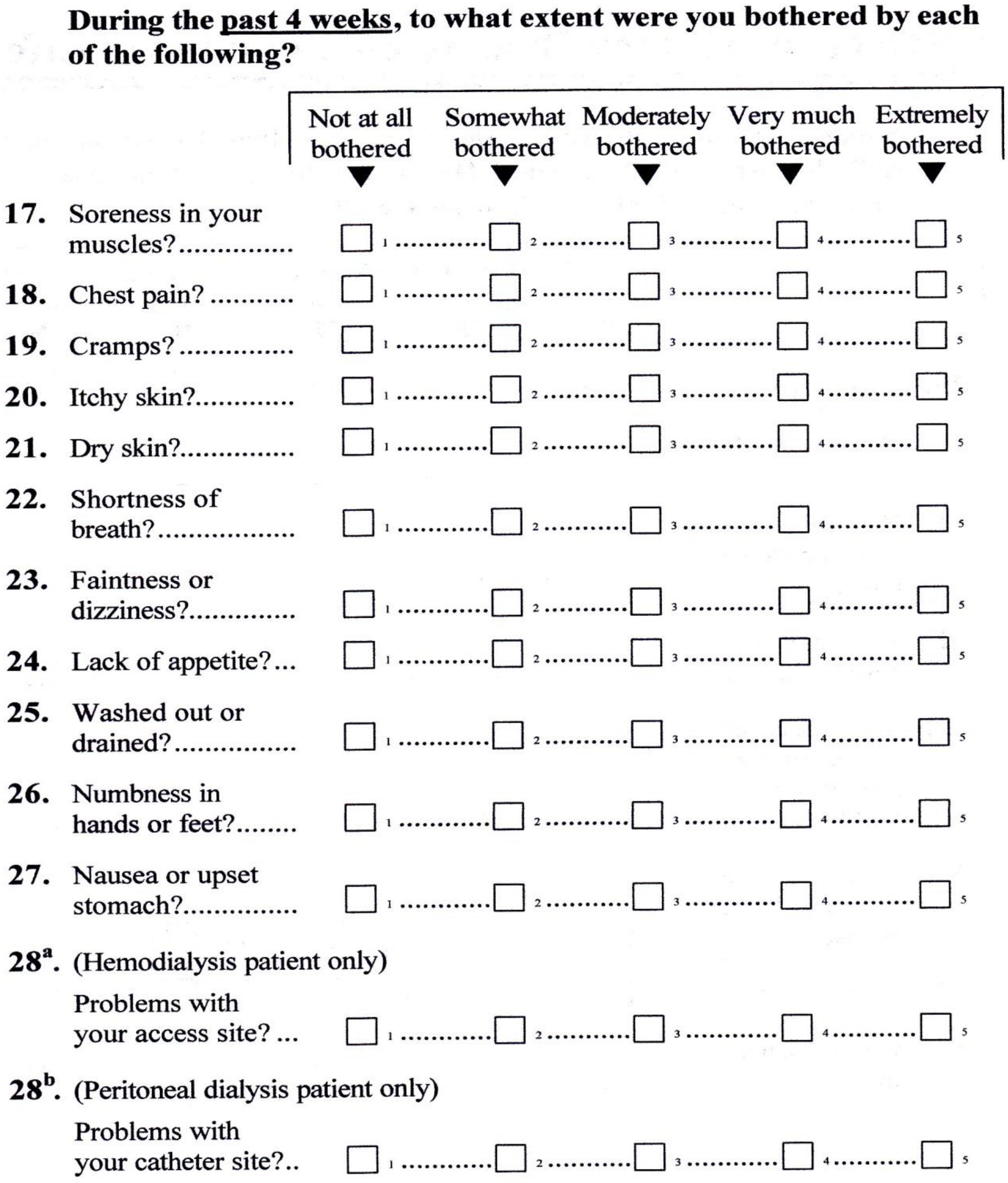
Your Kidney Disease

How true or false is each of the following statements for you?

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
13. My kidney disease interferes too much with my life	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14. Too much of my time is spent dealing with my kidney disease	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15. I feel frustrated dealing with my kidney disease	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
16. I feel like a burden on my family	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Appendix N

Kidney Disease Quality of Life – 36

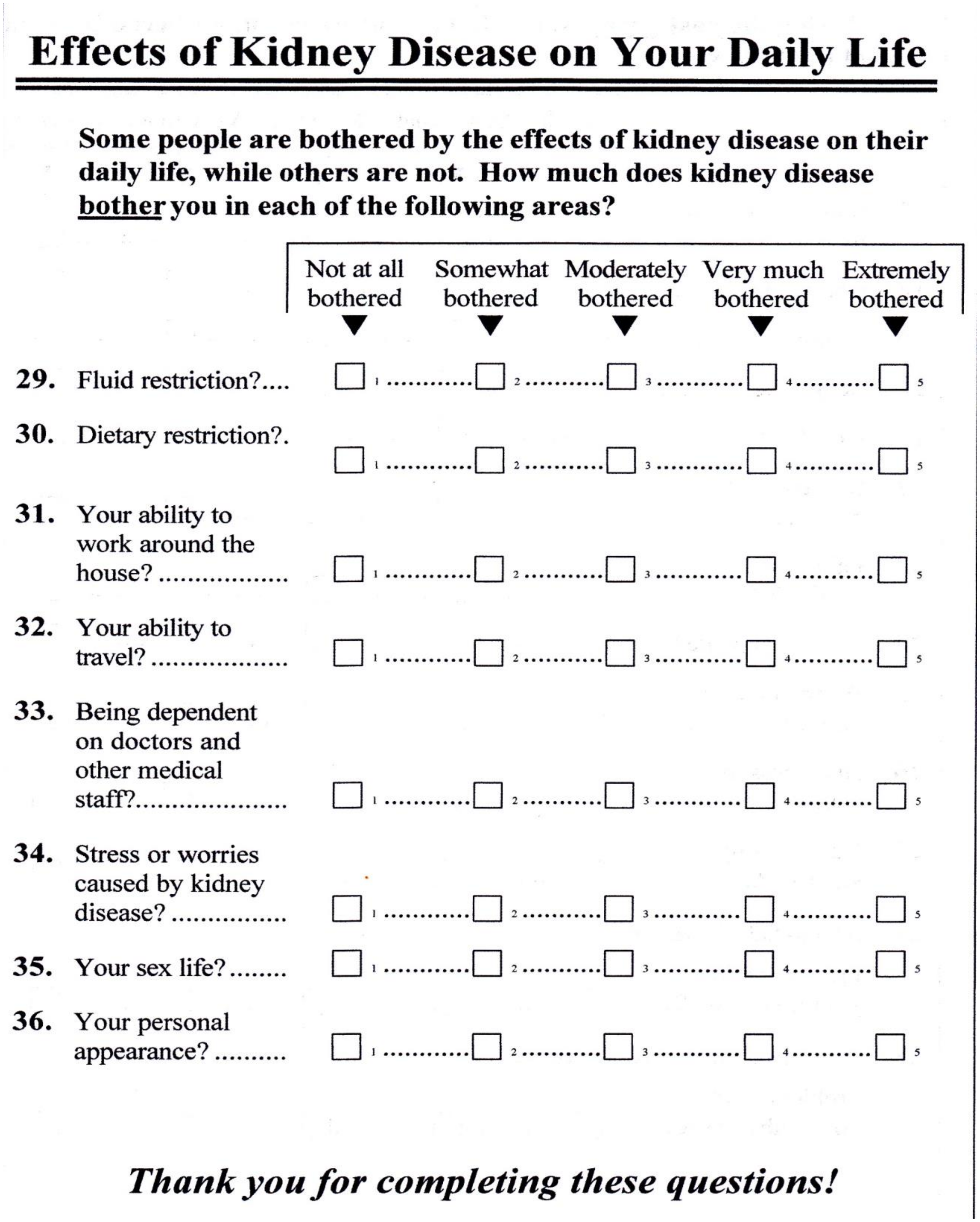


During the past 4 weeks, to what extent were you bothered by each of the following?

	Not at all bothered	Somewhat bothered	Moderately bothered	Very much bothered	Extremely bothered
17. Soreness in your muscles?...............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18. Chest pain?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19. Cramps?...............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20. Itchy skin?............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
21. Dry skin?..............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
22. Shortness of breath?.................	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
23. Faintness or dizziness?.............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
24. Lack of appetite?...	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
25. Washed out or drained?................	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
26. Numbness in hands or feet?........	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
27. Nausea or upset stomach?..............	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
28^a^. (Hemodialysis patient only) Problems with your access site? ...	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
28^b^. (Peritoneal dialysis patient only) Problems with your catheter site?..	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Appendix N

Kidney Disease Quality of Life – 36



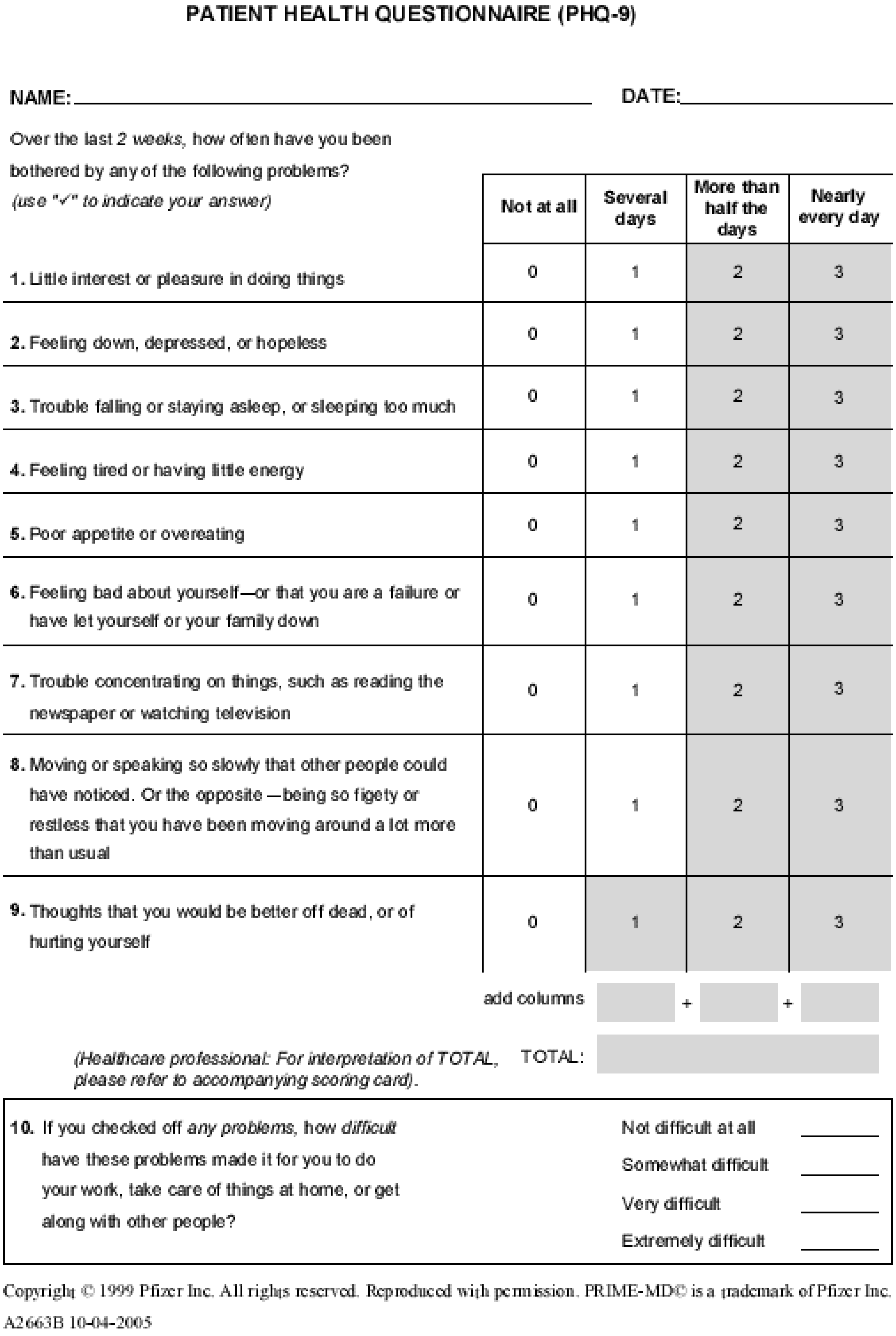
Effects of Kidney Disease on Your Daily Life

Some people are bothered by the effects of kidney disease on their daily life, while others are not. How much does kidney disease <u>bother</u> you in each of the following areas?

	Not at all bothered	Somewhat bothered	Moderately bothered	Very much bothered	Extremely bothered
29. Fluid restriction?....	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
30. Dietary restriction?.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
31. Your ability to work around the house?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
32. Your ability to travel?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
33. Being dependent on doctors and other medical staff?.....................	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
34. Stress or worries caused by kidney disease?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
35. Your sex life?........	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
36. Your personal appearance?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Thank you for completing these questions!

Appendix O



PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME:__________________________________ **DATE:**________________

Over the last *2 weeks,* how often have you been bothered by any of the following problems? *(use "✓" to indicate your answer)*	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite —being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	add columns		+	+
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card).	TOTAL:			

10. If you checked off *any problems,* how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?		
	Not difficult at all	________
	Somewhat difficult	________
	Very difficult	________
	Extremely difficult	________

A2663B 10-04-2005

Appendix Pappe

Author Guidelines Nephrology Nursing Journal

The *Nephrology Nursing Journal* (NNJ) is the official publication of the American Nephrology Nurses Association (ANNA). The NNJ is a refereed clinical and scientific publication that provides current information on a wide variety of subjects to facilitate the practice of professional nephrology nursing. Its purpose is to disseminate information on the latest advances in research, practice, and education to nephrology nurses and to positively influence the quality of care provided.

The NNJ welcomes both solicited and unsolicited manuscripts and suggestions for articles. Manu script queries should be submitted to bethtulrich@gmail.com. All materials must be original and submitted for the exclusive use of the NNJ.

Complete author guidelines can be found at the ANNA website, www.annanurse.org/journal. What follows is a summary of the NNJ guidelines.

Manuscript Preparation

All manuscript contents should adhere to the guidelines established by the Publication Manual of the American Psychological Association (APA), 6th edition.

Technical Format. Manuscripts should be submitted using MS Word, in a 12-point font, double-spaced, and one-inch (1”) margins. Preferred font is Times New Roman. Body text should be indented at the beginning of each paragraph. A running header (shortened title) and page number should be included at the top of each page of the manuscript except for the title page. Length of submitted manuscripts varies with content. Manu scripts should be submitted as one file (i.e., Title Page, Author Information, Abstract, etc.) unless separate files are absolutely necessary. Reference software programs (including MS Word standard programming) should NOT be used.

Headings. NNJ uses three levels of headings in the body of the manuscript:

First Level (bold, left-justified, underlined, Arial font)

Second Level (bold, left-justified, Times New Roman font)

Third level. (bold, at the start of the paragraph, Times New Roman font)

Author information and biographical statement. Include the author(s) name(s) on a separate page, indicating primary author, and the contact address, telephone number(s), and email address for the primary author. Include a 2-sentence autobiographical statement for each author describing current employment, credentials, and (if applicable)ANNA chapter and ANNA positions.

Disclosure statement. Include a statement signed by all authors that the contents, in whole or in part, have not been previously reported, and are not under consideration for publication elsewhere, nor will be, until a decision is made by the NNJ Editor.

Abstract. Include a complete succinct abstract of 75-125 words for all manuscripts.

References and Citations

References and citations must conform with the Publication Manual of the APA, 6th ed. (2010). All citations in the text should be cited by author and date (for example, Doe & Brown, 2010). List references in alphabetical order. Only include references that are actually cited within the text. Authors are encouraged to provide the digital object identifier (DOI) number for all references when possible.

Citing multiple authors. In-text citations with six or more authors should include the first author followed by et al., even in the first citation.

Reference List. If there are seven authors or less, list all authors. If there are eight authors or more, list the first six, an ellipsis (…), and the last author. Sample:

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Author, A.A., Author, B.B., Author, C.C., Author, D.D., Author, E.E., Author, F.F., … Author, Z.Z. (2012). Title of article. Journal Name, 10(2), 101-110.

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Author, A.A., & Author, B.B. (2012). Title of chapter. In A. Editor & B. Editor (Eds.), Title of book (pp. xxxxxx). Location: Publisher.

Photographs

Photographs should be submitted electronically and with a resolution at least 300 dpi or a minimum of 1280 x 960 pixels.

Tables and Figures

Tables and figures must be of high quality contrast and include the data needed for the table or figure to be adapted for publication. Provide detailed legends at the top of each table or figure. If the table or figure is taken from another source, include a full reference citation. Obtaining permission to reprint another's work is the responsibility of the author.

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