The Effect of Hope-Focused Motivational Interview on Depression, Anxiety, Stress, and Hope Levels of Individuals Receiving Hemodialysis Treatment: A Study Protocol for A Randomized Controlled Trial

Umut Odaklı Motivasyonel Görüşmenin Hemodiyaliz Tedavisi Alan Bireylerin Depresyon, Kaygı, Stres ve Umut Düzeylerine Etkisi: Randomize Kontrollü Bir Çalışma İçin Bir Uygulama Protokolü

Şerife Bilge DURAN[1] , İlkay KESER[2*]

[1] Akdeniz University, Institute of Health Sciences, Nursing Department, Mental Health and Psychiatric Nursing Master's Program, Antalya, Türkiye.
[2] Akdeniz University, Faculty of Nursing Department of Psychiatric Nursing, Antalya, Türkiye.

Abstract

This study examines the impact of hope-focused motivational interviewing on depression, anxiety, stress, and hope in hemodialysis patients. It is a single-center, single-blind, randomized controlled trial, designed and conducted to comply with SPIRIT guidelines. The study included 46 participants receiving treatment at a single center Akdeniz University Hospital. Data were collected using a sociodemographic form, Depression, Anxiety and Stress Scale, and Continuous Hope Scale. The intervention group received face-to-face interviews once a week for eight weeks, lasting 45-60 minutes each. The control group received a one-hour training session on hope. A "tree of hope" was created for each participant to aid in evaluating the interview sessions, allowing them to set goals and identify obstacles and solutions. After eight weeks, a posttest was administered to both groups, followed by a one-month follow-up. The study aims to contribute to the literature on this subject. It was registered on ClinicalTrials.gov in June 2021(NCT04927923).

Keywords: Anxiety, depression, hope, motivational interviewing, stress

Özet

Çalışma, umut odaklı motivasyonel görüşmenin hemodiyaliz tedavisi gören depresyon, anksiyete, stres ve umut üzerindeki etkisini incelemeyi amaçlamaktadır. Bu çalışma, tek merkezli, tek kör, randomize kontrollü bir çalışmadır. SPIRIT'e uygun, randomize kontrollü çalışmayı bildirmek amaçlanmıştır ve uygulanmıştır. Çalışma evrenini Akdeniz üniversitesi hastanesinde, tek bir merkeze tedavi için gelen 46 kişi oluşturmuştur. Çalışma Hemodiyaliz kliniğinde gerçekleştirilmiştir. Araştırma verileri sosyodemografik veri formu, Depresyon, Anksiyete ve Stres Ölçeği, Sürekli Umut Ölçeği kullanılarak elde edilmiştir. Araştırmada müdahale grubuna umut odaklı motivasyonel görüşmelerin haftada bir kez, 45-60 dakika sürerek, sekiz hafta boyunca yüz yüze görüşmeler uygulanmıştır. Kontrol grubuna tek oturumluk umut temalı bir saatlik eğitim verilmiştir. Çalışma kapsamında görüşme seanslarının değerlendirme sürecinde kullanılmak üzere hastalarla birlikte herkes için bir umut ağacı oluşturulmuştur. Umut ağacı aracılığıyla bireyin hedefler belirlemesi, bu hedeflere ulaşma yolundaki engelleri ve çözüm yollarını keşfetmesi amaçlanmaktadır. Sekiz haftanın sonunda müdahale ve kontrol gruplarına son test uygulanacaktır. Son test uygulamasının ardından birinci ayın sonunda izlem yapılmıştır. Araştırmadan elde edilen sonuçların literatüre katkı sağlayacağı düşünülmektedir. Çalışma, ClinicalTrials.gov'da Haziran 2021'de kaydedilmiştir (NCT04927923).

Anahtar Kelimeler: Anksiyete, depresyon, umut, motivasyonel görüşme, stres

1. Introduction

Kidney failure is a major health issue in the world and in our country. If kidney failure is not diagnosed and treated early, a medical condition called end-stage renal disease emerges and compels individuals to undergo dialysis treatment. This high-cost treatment makes individuals dependent on the health institution on certain days and hours of the week and negatively affects the quality of life of the individuals (T.C. Ministry of Health, 2018). Kidney failure and hemodialysis treatment reduce the living standards of patients, increase physical and psychological problems, limit their recreational, social and professional activities and need family support and care (Haririan et al., 2013; Rojas, 2017). The most common psychological problems in hemodialysis patients; depression (El Filali et al., 2017; Ravaghi et al., 2017), restriction of social life (Okanlı & Karabulutlu, 2011), anxiety (El Filali et al., 2017; Semaan et al., 2018), stress (Tao et al., 2023) and hopelessness (Alidoust-Ghahfarokhi & Kiyan-Ersi, 2016). Therefore, patients' adaptation to treatment processes and coping with the difficulties they encounter necessitate psychosocial interventions.

According to Babur (2019), Abram (1979) grouped the reactions of individuals who received hemodialysis treatment into five periods. He termed the first phase "Uremic Period"I. In this period, the individual has not started dialysis yet, but the diagnosis of renal failure, despondency, fear of death, weakness, and other findings suggest that it can be seen. He referred to the second phase as the "Anxiety Period" (Beginning of Dialysis). The anxiety phase is when patients start having concerns about their journey of treatment. The third phase, known as the "Honeymoon Period" (the first three weeks of dialysis), was described as a period in which the patient feels better, apathy declines, and euphoria may be felt as symptoms begin to recede. The fourth period is the "Depression Period". It starts with the individual realizing the situation after 8-9 dialysis. This phase, which typically lasts three to twelve months and is marked by treatment compliance issues and a state of despair. The last period has been defined as the "Adaptation Period". During this period, the individual adjusts to the dialysis equipment and attempts to return to the normal life. There are forward plans and expectations. When the characteristics of these five periods are evaluated, although each period contains its own specific emotional and behavioral responses, it is a situation that should be evaluated to develop / strengthen hope and hope (Babur, 2019).

Snyder et al. (1991) evaluated hope in two dimensions: emotional and cognitive. The first dimension, "agency", is the desire to reach the goal and the feeling of strength to achieve the goal. It includes being able to make successful decisions to achieve past, present, and future goals. The second dimension of hope is called "pathway". The Pathway dimension involves the individual's belief in his or her ability to successfully plan for and achieve his or her goals. The two dimensions are positively correlated with one another and enhance each other's impacts. It is a healing force that promotes well-being necessary for healthy coping (Ottaviani et al., 2014; Park & Yoo, 2016) Hope has been defined as a fundamental resource in human life. Hope is an important trait for predicting health and well-being biologically, socially and psychologically (DeNora, 2021). It is seen as an effective coping mechanism that makes the individual feel safe and relate to reality, increases motivation, prevents feelings of

pessimism or helplessness in case of illness, and contributes to compliance with treatment (Ottaviani et al, 2014). As they increase, their compliance with treatment increases and as a result, it can be effective in reducing the disease symptoms. In this context, it is predicted that with a hope-oriented motivational interview, individuals will be able to recognize their goals more easily and determine their paths. Studies involving hope-enhancing intervention are based on Snyder's Hope Theory in positive psychology (Tahan & Sabriyan, 2023; Taşkın Yılmaz et al., 2020), diabetes (Winarsunu et al., 2023; KhalediSardashti et al., 2018), myocardial infarction (Chen et al., 2023), depression (Movahedi et al., 2015), kidney failure (Rahimipour et al., 2015), unstable angina (Mozooni et al., 2017), leukemia (Abow et al., 2023).

In addition to individuals with chronic diseases, hope-enhancing interventions were applied to individuals with caregiver roles such as caregivers of patients diagnosed with post-traumatic stress disorder (Yousefi et al., 2016) and mothers of children diagnosed with cancer (Shekarabi-Ahari et al., 2012). At the same time pregnant women (Samavi et al., 2018), married students (Khoshkharam & Golzari, 2011), etc. To examine the effects of healthy individuals on mental health because of the practices that strengthen hope, depression (KhalediSardashti et al., 2018; Rahimipour et al., 2015), anxiety, and stress levels (Rahimipour et al., 2015) decreased in individuals, and their well-being (Shekarabi-Ahari et al., 2012) was observed to increase. In this context, it was aimed to establish the protocol of the study and evaluate its suitability to determine the effect of hope-focused motivational interviewing on the depression, anxiety, stress and hope levels of individuals receiving hemodialysis treatment. It is thought that the research results will contribute to the literature.

2. Methods

The study was conducted in a single-blind, randomized controlled, pretest-posttest control group research design to evaluate the effect of hope-focused motivational interviewing on the depression, anxiety, stress and hope levels of individuals receiving hemodialysis treatment. A follow-up evaluation was made to the experimental and control groups at the end of the first month following the post-test application. The population of the study consisted of 70 individuals receiving treatment at the Hemodialysis Clinic of Akdeniz University Hospital, and the sample consisted of 46 individuals, including 23 experimental and 23 controls, who met the exclusion criteria. To conduct the research, approval was received from the Akdeniz University Faculty of Medicine Clinical Research Ethics Committee (Document ID: 57830559-302.14.01-E.83192, date: 29.07.2020 and number: 28/350). The study protocol was followed by Standard Protocol Items: Recommendations for Interventional Trials (Chan et al., 2013) The RCT followed the Consolidated Standards of Reporting Trials (CONSORT) statement for reporting RCTs (Moher et al., 2012). The EQUATOR Network and reporting guidance in the study are shown in Table 1 (Chan et al., 2013).

Table 1. Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) Figure with Design and Outcome Assessments

Timepoint	Enrolment Before Diagnosis (T--1)	Basely (T-0) Before The Interview	Intervention Hope-Focused Motivational Interview	Follow-Up After The Interview (T-1)	Follow-Up One Month After the Interview (T-1)
Enrolment					
Eligibility Screen	x				
Informed Consent	x				
Randomization		x			
Interventions					
Intervention			x		
Control			x		
Assessments					
Demographics		x		x	x
Scale		x			

In the study, hope-focused motivational interviews were applied to the intervention group face to face, once a week, lasting 45-60 minutes, for eight weeks. The control group was given a one-hour, single-session training on hope.

Research data were obtained using the sociodemographic data form, Depression Anxiety Stress Scale (DASS 21) and Dispositional Hope Scale (DHS). In the analysis of the data, descriptive statistics such as frequency distribution, mean, standard deviation, Student-t test or Mann-Whitney U test, two pairs test were used to describe the sample in the SPSS 23.0 (Social Sciences Static Package) program. When comparing groups within themselves, Wilcoxon pair test is performed according to parametric test assumptions. Wilcoxon pair test or Chi-square test was used to analyze categorical data according to groups. The researchers used the G*Power (v3.1.9.7) program to determine the sample size. Rahimipour et al. (2015) evaluated the effect of hope therapy on the depression, anxiety and stress levels of hemodialysis patients. Although d=4.13 was calculated with 80% power and 95% confidence interval for this study, the recommended high effect size ANOVA was accepted as p=0.4, d=0.4 and the total effect size for both groups was 36. became a person. Considering the 10% missing value, the study was conducted with a total of 46 individuals, 23 of whom were experimental and 23 were control.

3.1. Inclusion Criteria

- Volunteering to participate in research.

- Being over the age of 18

- Being able to read and write.

3.2. Exclusion Criteria

- Having undergone a prior transplant surgery,

- Not being able to stay connected and communicate effectively,

- Experienced a traumatic life event; lost in the last 6 months, etc.

3.3. Extraction Criteria

- Not attending the interview for more than 2 weeks,

- Developing a medical condition that prevents interviews,

- Exercising the participants right to withdraw from the trial at his / her own request.

3.4. Randomization and allocation

Experimental and control groups were created using the envelope method for all individuals determined according to the inclusion and exclusion criteria. They are divided into two groups according to treatment days (Monday, Wednesday, Friday and Tuesday, Thursday, Saturday). On the determined days, individuals were divided into four groups: morning and afternoon. After the groups were determined, a pre-test was applied, and interviews started. When determining the groups, the selection of envelopes was made by the advisor and faculty member other than the researcher. In this context, the researcher examined the individuals in the intervention/control group. He carried out the application knowing which group he was in, and the participants participated in the application without knowing which group they were in. One-way blinding was used in this study. Homogeneity test was used between experimental and control groups. In both groups, the post-test was administered eight weeks after the first interview, and the follow-up test was administered one month after the post-test. CONSORT flowchart graph of study participants shown in Figure 1.

3.5. Limitations of the Research

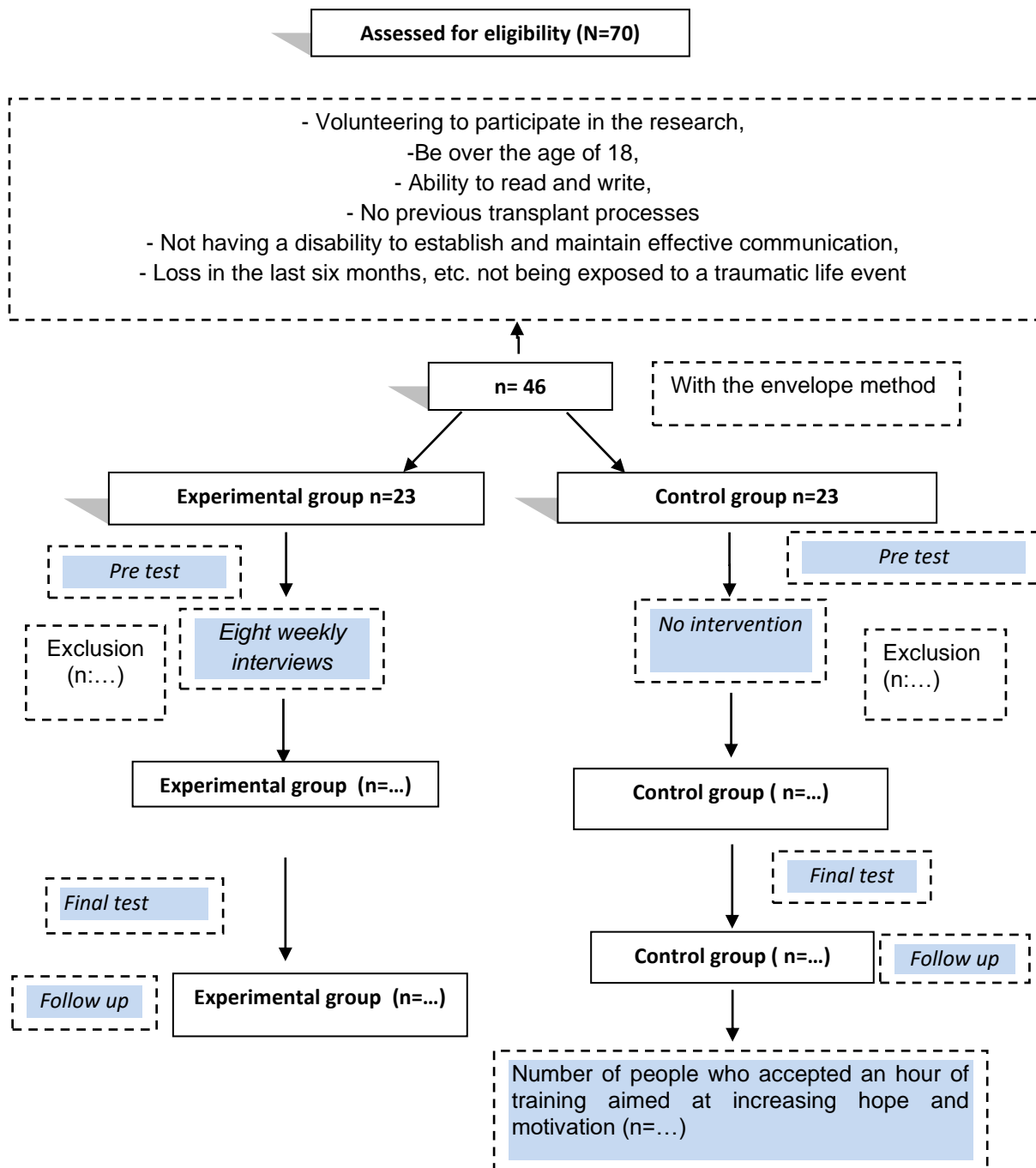It is limited to the fact that the findings are limited to the group to which it was applied.

Figure 1. Consolidated Standards of Reporting Trials (CONSORT) Flow Diagram of Participants Through Trial

3.5. Intervention

3.5.1. Pre-Intervention

As part of the preliminary application, all application tools and an eight-week hope-focused motivational interview were conducted with two people to test their understandability and applicability. These two people were removed from the sample.

3.5.2. Intervention Phase

An eight-week hope-focused motivational interview was administered individually to everyone during dialysis treatment. Due to the pandemic process, social distance rules were followed and necessary precautions (visor, mask, gloves, apron) were taken. Each session has assignments based on goals and objectives. Within the scope of the study, a tree of hope was created for everyone, together with the patients, to be used in the evaluation process of the interview sessions. Through the tree of hope, it is aimed for the individual to set goals and discover the obstacles and solutions to achieving these goals. Within the scope of the application, the individual was asked to list the goals he/she set in order of priority, write his/her priority goals/targets on small butterflies, and paste the others on the cardboard using a color of their choice. The next week, the selected priority target was written, and the trunk of the tree was created. The branches of the tree were used for designated routes to reach the chosen goal next week. Leaves symbolize situations that may be encountered on certain paths. Finally, the following week, flowers were created using the selected colors, and they presented the individual's own self-motivating speech. The purpose of this material was to examine the topic of the weekly meeting within its constraints (Table 2).

Table 2. Hope Focused Motivational Interviews Plan

Sessions	Session's Subject	Session's purpose
1.session	Get acquainted with	Meeting the individual, giving information about the sessions and discussing hope with its conceptual dimensions.
2. Session	The role of goals in the development of hope	Obtaining information about the individual's goals
3. Session	The place of hope in life	To raise awareness of the hope that exists in the life of the individual
4. Session	The place of hope in life	To raise awareness of the hope that exists in the life of the individual
5. Session	Self-talk and hope	To raise awareness of the link between hope and self-talk
6. Session	Life activities and hope	To raise awareness of the link between the individual's life activities and hope
7. Session	Obstacles	To make people realize the importance of hope in overcoming obstacles that may exist in life.
8. Session	Evaluation	Review and end all sessions

3.6. Outcome Measures

The research data were collected by applying the following scales to individuals who agreed to participate in the study, read and signed the informed consent form prepared for the experimental and control group.

o Sociodemographic data form,

o Depression Anxiety Stress Scale (DASS 21),

o Dispositional Hope Scale

3.6.1. The Sociodemographic Data Form

It consists of 23 questions developed by the researcher based on the literature (Babur, 2019; El Filali et al., 2017; Okanlı & Karabulutlu, 2011) to determine the sociodemographic characteristics of individuals. This section includes questions about the treatment process's outcomes in addition to personal information about the patients, such as their age, gender, and level of education.

3.6.2. Depression Anxiety Stress Scale (DASS 21)

They created DASS-21 by abbreviating DASS-42 by Lovibond and Lovibond (1995). The psychometric properties of the Turkish version of the "Depression Anxiety Stress-21 scale (Dass-21)" in normal and clinical samples were performed by Sarıçam (2018). In the normal sample, the test-retest correlation coefficients were found to be r=0.68 for the depression subscale, r=0.66 for the anxiety subscale, and r=0.61 for the stress subscale. The scale, which is a 4-point Likert type, consists of 7 questions measuring "dimensions of depression, stress and anxiety". Getting 5 points or more from the depression sub-dimension, 4 points or more from anxiety, and 8 points or more from stress indicates that the individual has a related problem (Sarıçam, 2018).

3.6.3. Dispositional Hope Scale

Developed by Snyder et al. (1991), the SUÖ was adapted into Turkish by Tarhan and Bacanlı (2015). The scale, which is Likert type, consists of 12 items. It has 2 sub-dimensions, Alternative Ways Thinking and Acting Thinking, and there are 4 items for each sub-dimension. One of these items is for the past, two for the present and one for the future. The remaining 4 items are not related to hope but are fillers. It was determined that the Cronbach Alpha value of the acting thought sub-dimension was between .71 and .76, the Cronbach's Alpha value of the alternative ways thought sub-dimension was between .63 and .80, and the total Cronbach's Alpha value was between .74 and .84. In the Turkish validity and reliability study of the scale, the internal consistency coefficient was calculated as 0.84, the reliability coefficient obtained by the test-retest method as 0.81 for the Acting Opinion Dimension, 0.78 for the Alternative Ways Thinking dimension, and 0.86 for the total score of the scale. Individuals are asked to mark the degree to which the statements in the items reflect their own situation on a Likert-type eight-point rating scale. While scoring the scale, no points are given to the filling items, and the scores obtained from the Alternative Ways Thinking and Acting Thinking sub-dimensions are summed to obtain the Continuous Hope Scale total score. The lowest score that can be obtained from the scale is 8, and the highest score is 64. The score obtained from the scale is an indicator of the level of hope of the individual, and an increase in the score is interpreted as an increase in the level of hope (Tarhan & Bacanlı, 2015)

3.7. Ethical Considerations

Permission to use the scale was obtained by contacting the authors of the scales to be used in the study via e-mail. On the feasibility of the study, interviews were held with the Hemodialysis Clinic of Akdeniz University Hospital, positive feedback was received, and the written consent process was completed. An informed consent form was prepared for the participants, and individual consent was obtained from patients before the beginning of the study. Approval was obtained from the Akdeniz

University Medical Faculty Clinical Research Ethics Committee to conduct the study (Document ID: 57830559-302.14.01-E.83192, date:29.07.2020 and number: 28/350).

3.8. The Helsinki Declaration

Participants in randomized controlled trials must give their informed consent, according to the Declaration of Helsinki. An ethical committee has given its approval for the project.

3.9. Data Analysis

The analysis of the data obtained from the research was done in a computer environment using the SPSS 23.0 (Statistical Package for Social Science) package program. In evaluating the data, descriptive statistics such as frequency distribution, mean and standard deviation were used to describe the sample. Student-t test or Mann-Whitney U test was used in the analysis of continuous distributions of the two groups, depending on the test assumptions. To compare the groups within themselves, two-pair test or Wilcoxon pair test was used according to parametric test assumptions. Chi-square test was used to analyze categorical data by groups. A 95% significance level (or margin of error of $\alpha = 0.05$) was used to determine differences in analyses.

3.10. Validity and Reliability

Compliance between independent observers is a sought-after feature in determining observational reliability. "Observation" is a qualitative measurement method. Inter-observer reliability is a measure of consistency between two independent raters (observers) about the same construct. In this study, Cronbach's alpha value was determined according to the internal consistency coefficient and kappa analysis to evaluate the coherence between the two observers.

3.10.1. Trial organization

The Co-ordinating Group: The coordinating center of the Antalya arm is based at the Faculty of Nursing, University of Akdeniz, Turkey. This group has overall responsibility for the design of the proposed trial, and it is responsible for all aspects of day-to-day trial administration. The Coordinating Group is also responsible for preparing reports for the Steering Committee. Membership: IK, ŞBD.

3.10.2. Steering Committee

All progress of the research, evaluation of new information, patient safety, and adherence to the protocol were monitored by an independent scientific and administrative Steering Committee. Membership: ADS.

3.10.3. Data Monitoring Committee

The current intervention is a non-pharmacological one. It is not possible for adverse effects to occur due to the intervention. However, that study also had a committee to track the trial's progress. Given that the study might take up to 11 or 12 months to finish, the outcomes were confidently assessed by an independent Data Monitoring Committee (DMC). This was done at least twice a year, depending on all members of the DMC. Specific interim analyzes of DMC are discussed. IK, ŞBD.

4. Discussion

Today, the incidence of chronic diseases in the total population is increasing and kidney failure has an important place among these diseases (T.C. Ministry of Health, 2018). Hemodialysis treatment causes individuals to experience difficulties in many economic, social, and psychological areas (El Filali et al., 2017; Ravaghi et al., 2017). Due to the hardships, they face, their despondency grows, and the likelihood of mental illness rises. As a result, it is essential to protect the psychological well-being of individuals, boost their hope, and improve their mental health. It is thought that the incidence of mental disorders will decrease after the application. It is predicted that individuals will be able to comply with treatment more easily, and there will be a decrease in the rates of admission to treatment institutions and hospitalization due to the decrease in the possibility of secondary symptoms other than the symptoms of their existing chronic disease.

In the literature, different approaches are utilized to manage psychosocial symptoms in the treatment and care of chronic diseases, one of which is hope therapy. In many chronic diseases, interventions are made boost hope are made by different professional professionals such as nurses, doctors, and social workers. Although the use of hope therapy, which is stated to be effective in different patient groups, is common in the literature, no intervention study has been found to increase the hope level of dialysis patients in the field of nursing in our country. The results of the study are unique in that they provide data on the acceptance and effectiveness of this intervention in our country's culture, as it provides data for both psychiatric nursing practices and other health professionals. At the end of the study, it is envisaged that hope-focused motivational interviewing will be widespread by evaluating its effectiveness in both individuals with a diagnosis of chronic renal failure and individuals with a different chronic disease within the scope of consultation liaison psychiatry nursing practices.

5. Conclusions

Currently, kidney failure is one of the major chronic diseases that affect the population, and its incidence is increasing. Individuals undergoing hemodialysis experience challenges in a variety of social, psychological, and economical aspects. Therefore, they are more likely to become depressed and suffer from mental diseases because of the challenges they encounter. In this context, it is crucial

to safeguard people's mental health, boost their hope, and enhance their mental well-being. At the end of the study, it is anticipated that hope-focused motivational interviewing with this patient group as well as other patient groups will be implemented in various dialysis centers and become widely used in practice if it proves to be effective within the parameters of consultation liaison psychiatry nursing practices.

Authors Contributions

Topic selection: ŞBD, IK; Design: ŞBD, IK; Planning: ŞBD, IK; Data collection and analysis: ŞBD, IK; Article writing: ŞBD, IK; Critical review: ŞBD, IK.

Conflict of Interest

No conflict of interest has been declared by the authors

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