

ORIGINAL RESEARCH

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Investigation of the effect of video-assisted training on symptom management in patients undergoing liver transplantation

Elif Guvenc¹, Arzu Tuna²¹Sanko University, Department of Nursing, Gaziantep, Turkey²Izmir Tınaztepe University, Department of Nursing, Izmir, Turkey

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Abstract

The aim of this study was to investigate the effects of video-assisted training on symptom management in patients having liver transplantation. Data of the semi-experimental pre-test, post-test control group type study were collected from all patients who had liver transplantation for the first time between November 1, 2017 and May 31, 2018. When the confidence interval was calculated as 95% in the known sample, the number of patients to be included in the study was 60. Patients were divided into two groups as control (n=30) and experiment (n=30) randomly. The data were collected by the sociodemographic form and the MTSORD-58^{TR} scale and by the researcher by face-to-face interview technique. Video-assisted training for symptom management was applied to the patients and the experimental group patients were given video-assisted training before and after the surgery. One month after discharge, symptom management score was examined when they came to the control. No intervention was applied to the control group. Symptoms and distress were measured sequentially-ordinally. The control group patients having liver transplantation were found to have statistically higher scores than the experimental group (U=319.000, p=0.053) and distress (U=313.000, p=0.043). The control group patients having liver transplantation were found to have statistically higher scores after the video training (U=166.000, p<0.001) and distress (U=174.5, p<0.001) than the experimental group. As a result, it is known that our video training and counseling service given to the experimental group reduced the symptoms in the scoring of the MTSORD-58^{TR} scale and was effective in increasing the quality of life of the patients. It is recommended that new studies should be carried out in Turkey as it decreases the symptoms in MTSORD-58^{TR} scale scoring.

Keywords: Symptom management, liver transplantation, video training.

Introduction

Being the best treatment method for terminal and irreversible organ failure due to organ transplantation (tx), organ donation and organ transplantation issues have remained up-to-date [1]. In the past, liver transplantation was known as the last resort to save the life of the patient. Liver transplantation is currently seen as a radical treatment option that should be applied in the earlier stage of liver failure to improve the quality of life and improve the probability of patient survival [2,3]. In many studies, there was a significant increase in the quality of life of patients after liver Tx [3,4]. Organ Tx extends the life span of patients with end-stage organ failure, improves the quality of life and is considered as an important treatment option [5]. Improvements in organ preservation, advances in surgical technique, immunosuppression and better postoperative management contributed to improved survival rates [6].

It is stated that the aim of liver transplantation is to prolong the life span of patients, increase survival rates and prevent preoperative complications [7]. Today, one of the most important aims of healthcare services is to increase the quality of life and symptom management of the patients as well as the treatment of the disease. There is a significant relationship between the quality of life and symptom management. Quality of life is defined as the patient's perception of the effects of a disease and its treatment, which is considered to be a multifaceted concept related to health that includes the patient's physical, emotional, mental and social behaviors and well-being [8]. With the increasing success rate of transplantation, the survival rate of the patient gradually increases. Physical and psychological symptoms can be managed in line with the drugs used, health training and nursing counseling, thus increasing the quality of lives of patients [9,10]. It is among the important responsibilities of nurses and healthcare professionals to maximize the health of the individual by caring and treating the patient with liver Tx, and managing the symptoms related to the disease and drugs [10].

*Corresponding Author: Elif Guvenc, Sanko University, Department of Nursing, Gaziantep, Turkey, E-mail: elifgecici86@hotmail.com

Patients and their relatives should provide the recommended lifestyle changes regarding behaviors such as taking drugs

in accordance with the given hours and on time, attending appointments on time, not smoking, and not drinking. Therefore, nurses and healthcare professionals provide scheduled training and counseling for these behavioral changes, increase health promotion behaviors, and support symptom management [10]. Compliance with the usage of immunosuppressive drugs is very important in preventing graft rejection after organ Tx. Drug incompliance in Tx patients is defined as forgetting or using the wrong drug at least once per month. Incompatibility is also defined as taking the drug two or two and a half hour late at least once a month [11]. Compliance with patients' needs such as drug, nutrition, and physical activity will positively affect symptom management after Tx. Kaçmaz and Barlas (2014), in their study on the effect of psychosocial conditions of patients and their relatives who underwent liver transplantation, stated that it is important to create support groups for patients and their relatives after transplantation [12]. İşeri et al. (2018) stated that the recipients who underwent liver Tx from a living being had insufficient knowledge and needed counseling before and after transplantation. The counseling needs of liver transplant recipients are divided into two main themes: Pre-transplant counseling and post-transplant counseling. The first major theme has three sub-themes (liver failure, treatment process, causes and symptoms of living donors) and the second main theme has four sub-themes (drugs used, possible complications, sexuality and body image, and life after transplantation) [13]. Dąbrowska-Bender et al. (2016) mentioned the importance of education and nutritional counseling for patients after liver Tx in their study [14].

The number of liver transplantation, patients waiting for Tx and liver transplantation centers in the world and in Turkey is increasing day by day. For this reason, success in symptom management is achieved by performing patient trainings in a visual, tactile, auditory, planned, scheduled, one-on-one and face-to-face way [15]. Consequently, nursing training and counseling for the management of the quality of life and symptoms of patients after liver Tx is important.

This study was conducted to examine the effect of video-assisted training on symptom management in patients having liver transplantation.

Materials and Methods

Type of the Research

The research is a quasi-experimental study with pretest-posttest control group.

The universe and sample of the research

The research was conducted between November 1, 2017-May 31, 2018 in the organ transplant clinic of Inonu University Turgut Özal Medical Center. The patient groups that would constitute the sample of this study (experimental and control), patients suitable for the sampling characteristics, able to communicate verbally, not under 18 years of age, not over 65 years (age 65 and over are considered to be elderly according to WHO, since they might have mental problems), had no defined mental problems, and with a consciousness of 15 points according to the Glasgow Coma Scale were included in the study.

Sixty patients scheduled for liver transplantation were included in the study. Patients were divided into two groups as experimental (n=30) and control (n=30). If there was a difference between the groups while the experiment was being organized, the groups were divided as homogeneously as possible so that this difference could be based on the applied factor. Accordingly, the study was conducted in a way that the patients who came to the clinic between the specified dates and met the inclusion criteria were included in the control group and the experimental group, respectively.

There were 72 patients in 1 year who met the sampling criteria. When the confidence interval was calculated as 95% in the sample with a known universe, the number of patients to be included in the study was found to be 60. Of the 60 patients sampled, 30 formed the experimental group and 30 the control group.

Collection of data

The data in the study were collected using the "Patient Identification Form" prepared in accordance with the literature and the "Modified transplantation symptom occurrence and distress state 58-item scale MTSORD-58^{TR}" Scale and using face-to-face interview technique. The average time patients spent on the forms was between 15 and 20 minutes.

Patient Identification Form: This form, which was created by the researcher through a literature review, consists of 8 questions regarding the socio-demographic characteristics of the patients (age, gender, marital status, education level, economic status, place of residence, employment status, social security) and 4 questions regarding the diagnosis and treatment of the patient (additional chronic disease, drugs used), the reason for transplantation (according to the file), the method of transplantation.

Patient consent form: Patient consent forms prepared by the researcher for the experimental and control groups after a literature review.

Modified transplantation symptom occurrence and distress 58-item scale MTSORD-58^{TR}: The Turkish validity study of the MTSORD-58^{TR} scale was carried out by Ordin (2013) with a total of 180 organ transplant patients, including 100 liver transplant patients and 80 kidney transplant patients, and 180 healthy individuals who did not use immunosuppressive drugs. The surface validity of the scale was analyzed with the content analysis index, and as a result of the analysis, the surface validity of the scale was found to be very good (item content validity index=1.0, scale content analysis index=1.0). Each item of MTSORD-58^{TR} evaluates a side effect of immunosuppressive drugs. Each symptom has two dimensions that evaluate the symptom formation and discomfort in the symptom. A symptom that develops in the patient does not mean the development of another symptom. For example, the development of the hair growth symptom in the patient does not affect the development of the symptom of increased appetite. For this reason, the scale does not have a total score and sub-dimensions [16]. Our study is the first study conducted after the reliability and validity of the MTSORD-58 scale.

Nursing initiative: In order to increase the symptom management of liver transplant patients, video-assisted training was given to the experimental group twice before and after the transplantation.

This video was shown on a computer to the experimental group patients who received routine nursing care in the clinic. The video duration was shown for additional consultancy over a period of 40 minutes.

Nursing care in clinical routine practice was provided to the control group. After the last measurement of the control group, the video-assisted training applied to the experimental group was also given to the control group. (Training videos were delivered to each patient and their relatives as a CD.) (3,7,9 13,16). Before shooting the video, 3 expert opinions were received on the topics. The video content was not changed before and after the post.

Experimental group (n = 30)	Control group (n=30)
- Getting to know before the surgical intervention - Informing the patient about the research and receiving the "patient consent form" - Applying the "patient identification form"	- Getting to know before the surgical intervention - Informing the patient about the research and receiving the "patient consent form" - Applying the "patient identification form"
Determination of symptom management score using "Modified Transplantation Symptom Formation and Discomfort Scale" before surgery	Determination of symptom management score using "Modified Transplantation Symptom Formation and Discomfort Scale" before surgery
1. Before surgery; Showing the positive experiences of liver transplant patients by a video 2. After the operation; -How was the surgery (Donor, Live) -Breathing exercises, -Early mobilization, -Don't wear varsity socks, -Immunosuppressive / Cortisone effects and side effects, - Infection control, -Wound care -Nutrition, -Using drugs on time and regularly, -Sexual life, -Car use, -The trainings about the controls are explained in 2 parts with video support.	- Doctors and nurses to maintain normal clinical practice
Determination of symptom management score using the Modified Transplantation Symptom Formation and Discomfort Scale "at the first check-up after discharge.	Determination of symptom management score using the Modified Transplantation Symptom Formation and Discomfort Scale "at the first follow-up after discharge. - After this measurement to the control group, video-supported training will be applied to the experimental group. CD given to each patient

Figure 1. Flow of the Study

Evaluation of research data

The data were evaluated by the researcher in the SPSS 22.0 (Statistical Package for Social Sciences) program. Number (n) and percentage (%) calculations were made to examine the distribution of socio-demographic characteristics of individuals in the experimental and control groups. The distribution of the characteristics of the individuals related to their diseases was evaluated by number, percentage, chi-square and t tests. The difference between the mean scores of symptom occurrence and distress of the experimental and control groups of liver transplant patients was tested by Mann-Whitney U analysis. Symptom occurrence and distress were measured sequentially-ordinally. Ridit analysis is statistical data analysis used in analyzing ordinal data. Ridit analysis was used to identify the ten most common symptoms in liver transplant patients.

It is limited to patients who met the criteria except those with defined mental distress, were under the age of 18 and over 65, and patients who could speak or understand Turkish. 3 patients who could not speak Turkish and 5 patients over 65 years of age were

excluded from the sample.

Ethical aspect of the research

Before starting the study, permission was obtained for the Modified Transplantation Symptom and Distress Scale to be used in the study. Ethics committee approval was obtained from SANKO University Clinical Research Ethics Committee on September 28, 2017, with the decision number 02, and necessary permissions were obtained from İnönü University Liver Transplant Chief Physician (number 93629378-100). Moreover, the ethical principles of "confidentiality" and "protection of confidentiality" were adhered by declaring that the information obtained would be kept confidential and used only for scientific purposes. Verbal and written consents of the patients were obtained by explaining the purpose of the study before data was collected. The research was planned and conducted in accordance with the Helsinki Declaration Principles.

Results

Table 1 includes the socio-demographic characteristics of patients having liver transplantation. The mean age of the patients was 48.60+10.57 (min:21,max:63). The mean age of the control group was 46.87+11.29 (min: 21,max:62), and the mean age of the experimental group was 50.00+10.79 (min:27,max:63). There was no significant difference between the two groups and the groups were similar ($p=0.709$; $p>0.05$) (Table 1).

It was determined that 50.0% of the patients in the experimental group were primary school graduate and 46.7% of the patients in the control group were literate. Educational status was homogeneous in the experimental and control groups ($p=0.064$, $p>0.05$). In the experimental group 98.3% of the patients were married, 76.7% were male, 36.7% were civil servants, 93.3% lived in the city, 76.7% had a balanced income and expenditure, and 100,0% had health insurance. In terms of additional diseases, 26.7% of the patients had diabetes, 10.0% had hypertension, 6.7% had hyperlipidemia, 31.0% had a drug they used continuously. It was found that the cause of transplantation of 80.0% of the patients was chronic hepatitis B, the transplantation type of 100.0% of the patients was from living donor (Table 1).

It was determined that 96.7% of the patients in the control group were married, 53.3% were female, 46.7% were housewives, 76.7% were living in the city, 56.7% of them had a balanced income-expenditure, 86.7% had health insurance, 16.7% had diabetes, 10,0% had hypertension as an additional disease, 23.3% used a drug continuously, the transplantation reason of 36.7% of the patients was chronic hepatitis B, the transplantation type of 100.0% of the patients was from the living donor (Table 2).

It was found that the mean scores of symptom occurrence ($U=319.000$, $p=0.053$) and distress ($U=313.000$, $p=0.043$) scores were found to be statistically higher in the control group patients having liver transplantation than the experimental group (Table 3).

It was found that the mean scores of symptom occurrence ($U=166.000$, $p<0.001$) and distress ($U=174.5$, $p<0.001$) after video-training in the control group patients having liver transplantation were statistically higher than the experimental group (Table 4).

Table 1. Patient Identification Characteristics

Socio-demographic Characteristics	All Group (n=60)		Experimental Group (n=30)		Control Group (n=30)		Significance
	Number	Percentage	Number	Percentage	Number	Percentage	
Mean age (year)	48.60+10.57 (min: 21, max: 63)		50.00+10.79 (min:27, max: 63)		46.87+11.29 (min:21, max: 62)		
Education status							
Literate	19	31.7	5	16.7	14	46.7	
Primary School	26	43.3	15	50.0	11	36.7	0.054
High School	9	15.0	5	16.7	4	13.3	p>0.05
University	6	10.0	5	16.7	1	3.3	
Marital status							
Married	59	98.3	30	100.0	29	96.7	0.313
Single	1	1.7	0	0	1	3.3	p>0.05
Gender							
Female	23	38.3	7	23.3	16	53.3	0.017
Male	37	61.7	23	76.7	14	46.7	p<0.05
Employment status							
Worker	14	23.3	4	13.3	10	33.3	
Civil servant	13	21.7	11	36.7	2	6.7	
Housewife	21	35.0	7	23.3	14	46.7	0.011
Self-employment	4	6.7	2	6.7	2	6.7	p<0.05
Retired	8	13.3	6	20.0	2	6.7	
Place of residence							
Urban	51	85.0	28	93.3	23	76.7	0.071
Rural	9	15.0	2	6.7	7	23.3	p>0.05
Economic situation							
Income less than expenses	20	33.3	7	23.3	13	43.3	0,100
Balanced income-expense	40	66.7	23	76.7	17	56.7	p>0.05
Social security							
Yes	56	93.3	30	100.0	26	86.7	0.038
No	4	6.7	0	0	4	13.3	p<0.05
Presence of Additional Diseases							
Diabetes Mellitus							
No	47	83.9	22	73.3	25	83.3	0.347
Yes	13	16.1	8	26.7	5	16.7	p>0.05
Hypertension							
No	54	90.0	27	90.0	27	90,0	1,000
Yes	6	10.0	3	10.0	3	10.0	p>0.05
Hyperlipidemia							
No	58	96.7	28	93.3	30	100	0,150
Yes	2	3.3	2	6.7	0	0	p>0.05
Total	60	100.0	30	100.0	30	100.0	

Table 2. Patient Identification Characteristics

Socio-demographic Characteristics	All Group (n=60)		Experimental Group (n=30)		Control Group (n=30)		
	Number	Percentage	Number	Percentage	Number	Percentage	Significance
Continuously Used Drug							
No	16	26.7	9	31,0	7	23,3	0,559
Yes	44	73.3	20	69,0	23	76,7	p>0,05
Transplantation Reason							
Acute hepatitis B	4	6.7	1	3.3	3	10.0	0.051 p>0.05
Chronic hepatitis B	35	58.3	24	80.0	11	36.7	
Autoimmune hepatitis	4	6.7	1	3.3	3	10.0	
Cryptogenic liver disease	7	11.7	2	6.7	5	16.7	
Primary biliary cirrhosis	2	3.3	1	3.3	2	6.7	
Wilson's Disease	2	3.3	0	0	1	3.3	
Primary hepatic cancer	2	3,3	1	3.3	1	3.3	
Budd-Chiari	4	6.7	0	0	4	13.3	
Transplantation Type							
From cadaver	0	0	0	0	0	0	0,313
From living being	60	100	30	100	30	100	p>0.05
Total	60	100.0	30	100.0	30	100.0	

Table 3. Comparison of the Experimental and Control Groups' Symptom Occurrence and Symptom Distress Scores Before Video-Training

MTDSORD-58 ^{TR}	Experimental (n=30)	Control (n=30)	U	P*
Symptom occurrence	92 (58-153)	110 (58-155)	319	0.053
Symptom distress	35.5 (0-95)	53.5 (0-97)	313	0.043

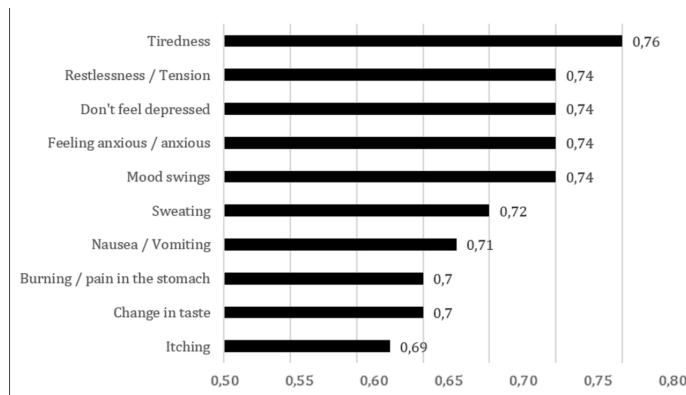
*Mann-Whitney U test

Table 4. Comparison of the Experimental and Control Groups' Symptom Occurrence and Symptom Distress Scores After Video-Training

MTDSORD-58 ^{TR}	Experimental (n=30)	Control (n=30)	U	P*
Symptom occurrence	63 (58-117)	105.5 (58-136)	166	<0.001
Symptom distress	5 (0-59)	47.5 (0-79)	174.5	<0.001

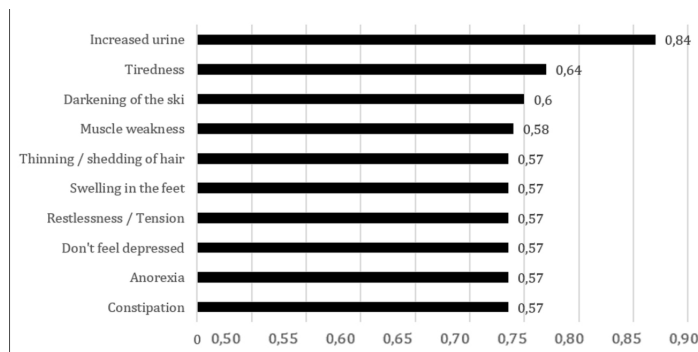
*Mann-Whitney U test. Median (min-max)

The distribution of the ten most common symptoms in the control group transplant patients was shown according to the symptom occurrence size. The ten most common symptoms according to the size of symptom occurrence were fatigue, uneasiness/tension, feeling depressed, feeling anxious/nervous, mood swings, increased sweating, nausea/vomiting, stomach burning/pain, change in taste and itching, respectively (Graph 1).



Graph 1. Distribution of Pre-Transplantation Symptom Occurrence Redit Values of Control Group Transplant Patients

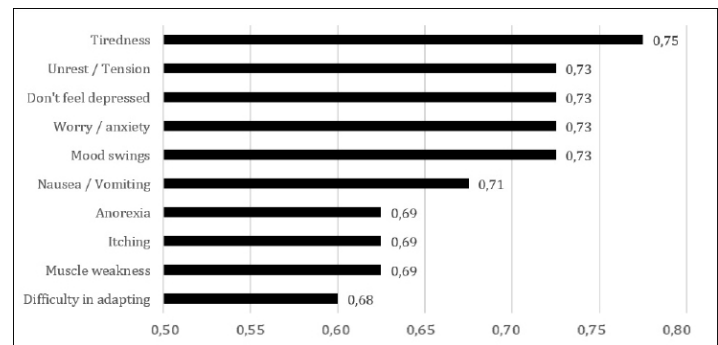
The distribution of the ten most common symptoms of the transplant patients in the experimental group was shown according to the symptom occurrence size. The ten most common symptoms in the symptom-occurring dimension were increased urine, fatigue, darkening of the skin, muscle weakness, hair thinning or shedding, swelling of the feet, uneasiness/tension, feeling depressed, anorexia and constipation, respectively (Graph 2).



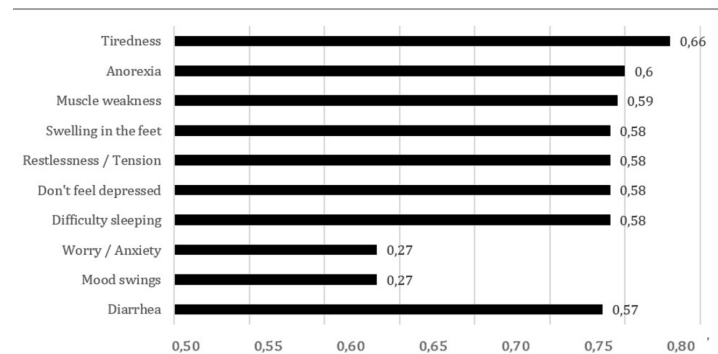
Graph 2. Distribution of Pre-Transplantation Symptom Occurrence Redit Values of Experimental Group Transplant Patients

The distribution of the ten most common symptoms in the control group transplant patients was shown according to symptom distress size. The ten most common symptoms in the symptom distress dimension were fatigue, uneasiness/tension, feeling depressed, anxiety/worry, mood swings, nausea/vomiting, anorexia, itching, muscle weakness and difficulty in sleeping, respectively (Graph 3).

The distribution of the ten most common symptoms in the experimental group transplant patients was shown according to the symptom distress size. The ten most common symptoms in the symptom distress dimension were fatigue, anorexia, muscle weakness, swelling of the feet, uneasiness/tension, feeling depressed, difficulty in sleeping, anxiety/worry, mood swings, and diarrhea, respectively (Graph 4).



Graph 3. Distribution of Post-Transplantation Symptom Distress Redit Values of Control Group Transplant Patients



Graph 4. Distribution of Post-Transplantation Symptom Distress Redit Values of Experimental Group Transplant Patients

Discussion

One of the main methods used to treat advanced liver disease is liver transplantation. When organs or tissues are transplanted from one person to another, the transplanted person's body may see the transplanted organ as a threat, and the person's immune system may perceive the transplanted organ as an infection and react to this organ. This can lead to graft rejection and graft loss, resulting in the death of the organ transplant recipient. Many methods, alone or in combination, are used to prevent graft rejection. The combination of interventions used in the first few months after liver transplantation differs according to the methods used in the rest of the transplant person's life [17].

As part of a liver transplant, immunosuppression (suppression of the host immune) is applied to prevent graft rejection caused by the body's immune response to incompatible organ or tissue in patients with tissue antigens transplanted from a different person. It is not known exactly what the ideal immunosuppressive dose is after liver transplantation [17].

In the meta-analysis conducted by Rodríguez-Perálvarez et al. (2017), no relationship was established on how much the drug doses will be for the loss of life and quality of life of patients after liver transplantation. However, all immunosuppressive and cortisone treatments cause post-transplant physiological and psychological symptoms in patients [17].

The increase in the success rate achieved in transplantation gradually increases the survival rate of patients. In the next stage, attention should be paid to long-term survival and the management of symptoms that may occur (4). Managing the symptoms due to

immunosuppressive and cortisone usage after liver transplantation will also increase the patient's quality of life.

There is a directly proportional relationship between quality of life and symptom management. While the quality of life associated with health, including the physical, emotional, mental and social behaviors of the patient, including well-being, is considered a multifaceted concept, it is defined as the patient's perception of the effects of the disease and its treatment [8]. Many studies showed a significant increase in the quality of life of patients after liver Tx [3,4]. The symptoms that occur due to the pre-operative failure of the patients decrease after the transplant, but the patients have to manage their symptoms with the side effects of the drugs used after the transplant. After liver transplantation, patients' compliance with their conditions such as drug usage, nutrition, physical activity will positively affect the symptom management after Tx. Compliance with the usage of immunosuppressive drugs is important in preventing graft rejection after organ Tx. Drug incompatibility in transplant patients is defined as forgetting the drug at least once a month or using the wrong drug. Incompatibility is also defined as taking the drug two or two and a half hour late at least once a month [11]. This drug incompatibility negatively affects the symptom management.

Many measurement tools are used to evaluate the symptom management of organ transplant patients. It is stated in the literature that a valid measurement tool is needed to evaluate symptom management. MTSORD-58^{TR} is used to evaluate the side effects of immunosuppressive usage in organ transplant patients around the world [18].

In this study, the experimental and control groups were evaluated using the aforementioned MTSORD-58^{TR} scale. Video training and consultancy services were provided to the experimental group. After 1 month, the first ten symptoms observed according to symptom occurrence and distress scores according to MTSORD-58^{TR} scale were determined in the experimental and control groups. In the study, as a result of the ridit analysis, the top ten most common symptoms in the experimental and control groups of liver transplantation were determined. In the control group who did not receive video training after transplantation; the ten most common symptoms according to the symptom occurrence size were; fatigue, uneasiness/tension, feeling depressed, feeling anxious/nervous, mood swings, increased sweating, nausea/vomiting, burning/pain in the stomach, change in taste, and itching, respectively. In the control group transplant patients, the ten most common symptoms in symptom distress dimension were fatigue, uneasiness/tension, feeling depressed, anxiety/worry, mood swings, nausea/vomiting, loss of appetite, itching, muscle weakness and difficulty in sleeping, respectively. The ten most common symptoms in terms of symptom occurrence in the experimental group were increased urine, fatigue, darkening of the skin, weakness in the muscles, thinning or shedding of the hair, swelling of the feet, uneasiness/tension, feeling depressed, anorexia and constipation, respectively. The ten most common symptoms in the dimension of distress in the experimental group transplant patients were fatigue, anorexia, muscle weakness, swelling in the feet, uneasiness/tension, feeling depressed, difficulty in sleeping, anxiety/worry, mood swings and diarrhea, respectively. It can be said that our video training and counseling service given to the experimental group reduced the

symptoms in the scoring of the MTSORD-58^{TR} scale and was effective in increasing the quality of life of the patients. In this study, patients of the experimental group with liver transplantation compared to the control group; Preoperative symptom development ($U=319.000, p=0.053$) and discomfort ($U=313.000, p=0.043$) mean scores were lower (Table 3). Although the preoperative symptoms were higher in the experimental group compared to the control group, it can be said that the video training and counseling service reduced the symptoms in the MTSORD-58^{TR} scale scoring.

In the study conducted by Berg-Emons et al. (2006) on patients who underwent liver transplantation, it was found that 44% of the patients were severely tired. The same study also stated that fatigue was related to quality of life, age, and gender [19]. Studies reported that, similar to the results of this study, patients experience insomnia, inadequacy in physical activity, and fatigue the most [20-24]. The symptom distribution scores we obtained in the study changed with training in the experimental group, and we found that the quality of life increased in the experimental group compared to the control group. As determined by Forsberg et al., Bean, Jones, Dudley et al., Sargent Wainwright, immunosuppressive and cortisone-related symptoms in patients having liver transplantation occur despite all counseling [20-24]. In our study, symptoms were present in both the experimental and control groups, but it can be said that our video training and counseling service we provide were effective.

The leading cause of death after transplantation is infections. In an autopsy series, 64% of deaths were found to be caused by infections. The most serious infections are usually seen in the first three months after transplantation. However, increasing the dose of immunosuppressive therapy to prevent graft rejection in patients with poor graft function may lead to opportunistic infections in these patients in the future [25,26].

The main purpose of Liver Tx is not only to ensure long-term survival, but also to give patients the opportunity to achieve their psychological and physical integrity. Quality of life after liver Tx can be affected by dissatisfaction with sex life. The sexual dysfunction reported in women and men in the pre-transplant period is caused by the liver disease itself. A successful liver transplantation is expected to maintain hormonal balance and improve sexual function. However, persistent sexual dysfunctions are reported in 25% of patients after liver Tx, and up to one-third of patients describe new sexual dysfunction [27].

In the study conducted by Van Der Plas et al. (2003) in the Netherlands, the quality of life and fatigue status of patients with chronic liver disease, who received liver Tx, and healthy individuals were compared. As a result of the study, it was stated that the mental health and motivation of the patients who were applied liver Tx were lower than the healthy group, they had more pain, and the patients with chronic liver disease had insomnia, decreased appetite, jaundice, depression and fears higher than the healthy people and the patients who had liver Tx. Moreover, it was emphasized that chronic liver disease patients had the highest level of fatigue and the lowest quality of life [28].

In many interviews conducted in patients having liver Tx, patients stated that they experienced drug incompatibility because they wondered about the situation when they did not take the drug,

pretended to take the drug and delayed the dose because they did not know what effect it had, they did not know the side effects of the drug, they thought it was enough to take the drug and decided not to take the drug on their own, due to misunderstanding or not understanding properly. Similar to the findings of this study, drug knowledge was found to be important in increasing compliance, and the importance of training in patients' compliance with treatment was emphasized [29-31]. Training and counseling are important for patients to manage problems in adapting to their new lives and gaining autonomy [24].

Conclusion

It was found that the pre-video training symptom occurrence and distress mean scores of the control group patients having liver transplantation were statistically higher than the experimental group. It was found that the mean symptom occurrence and distress scores of the control group patients having liver transplantation after video training were statistically higher than the experimental group. It is known that our video training and counseling service given to the experimental group reduced the symptoms in the scoring of the MTSORD-58TR scale and was effective in increasing the quality of life of the patients.

The following suggestions are presented in line with the results obtained; including the individual training given by the nurse in the routine care provided in the hospital in order to focus on the different needs of the patients and to allocate more time to the patient, providing the pre-operative visual and auditory trainings to the patients and repeating these trainings when the patients come for control; nurses providing training and consultancy services by making telephone, internet or home visit calls with the patient and his/her family after the transfer; it is recommended that studies should be conducted on this subject as it reduces symptoms in the scoring of the MTSORD-58^{TR} scale in Turkey.

Conflict of interests

The authors declare that they have no conflicts of interest concerning this article.

Financial Disclosure

All authors have read and approved the final form of this article.

Ethical approval

Ethics committee approval was obtained from SANKO University Clinical Research Ethics Committee on September 28, 2017, with the decision number 02, and necessary permissions were obtained from İnönü University Liver Transplant Chief Physician (number 93629378-100).

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