Effect of Teaching Guidelines on Patient Knowledge Post Liver Transplantation after Hospital Discharge

Reham El Ashery Ashery Asker1, Hanan Ali Ibrahim Almanzlawi 2, Hoda Attia Abdel Naby Raslan 3

(1) Lecturer in Medical-Surgical Nursing Department, Faculty of Nursing, Fayoum University
(2) Lecturer in Medical-Surgical Nursing Department, Faculty of Nursing, Mansoura University
(3) Lecturer in Medical-Surgical Nursing Department, Faculty of Nursing, Beni-Suef University

Abstract

Providing education for liver transplantation (LT) patient is considered an important role of nurses that help in minimizing postoperative complications and make the recovery easier. **Aim:** To assess the effect of teaching guidelines on patient knowledge post-LT after hospital discharge. **Subjects and method: Design:** A quasi-experimental research design was used. **Setting:** The study was conducted at Gastrointestinal Surgery Center and Liver Transplantation at Mansoura University Hospital. **Subjects**: A convenient sample of 60 patients post-liver transplantation was involved in the study from the previously mentioned setting. **Tools for data collection:** It included **a structured interviewing questionnaire** which consisted of two parts; (1) demographic data and (2) patients' knowledge regarding post-liver transplantation after hospital discharge. **Results**: There was a statistically significant difference regarding the level of knowledge pre and post-teaching guidelines about liver transplantation. There were significant associations between patients' knowledge regarding liver transplantation and their demographic characteristics. **Conclusion:** There was a satisfactory level of knowledge post teaching guidelines among LT patients. Teaching guidelines for patients post LT proved positive changes and improvements in their knowledge regarding LT. **Recommendations:** Teaching guidelines about liver transplantation should be provided for patients undergoing liver transplantation from hospital admission until discharge.

Keywords: Awareness, Liver Transplantation, Teaching guidelines, Hospital discharge

Introduction:

End-stage liver disease (ESLD) is a major health problem in Egypt and the number of patients is continuously increasing among s up to nine million Egyptians (**Gad et al. 2015).** Egypt is considered one from a heavily populated country, with a high prevalence of hepatitis C virus (HCV) infection is 26%. The high prevalence of occurrence related to chronic liver diseases among Egyptian people has led to increasing numbers of Egyptian patients suffering from ESLD. Liver transplantation (LT) is considered the most effective treatment for end-stage liver disease and is also, selected for primary hepatic malignancies. In Egypt until now, organ donation has been illegal, therefore Egyptian patients with the end-stage liver disease continue to seek whole cadaveric organ transplantation abroad (**Habib et al., 2013**).

The numbers of patients undergoing (LT) are increasing in Egypt; nursing has a significant role and responsibility for planning, administering, and evaluating the care of liver transplantation patients as a member of the team. Needs assessment is used to determine the programs requiring attention and the way to best meet these needs (**Hinkle et al. 2014**).

Education for the surgical patient is considered a vital role for nurses' actions that want to make their patients' recovery easier and minimize postoperative complications. The nurses often spend a long deal of time with the patient, which allows a complete observation of the client and the opportunity to act in the role of educator. Although patient education and teaching are required frequently regarded as interchangeable terms, some differences are often unrecognized by the nurse (**Amer, & Marwan, 2016**).

Surgical patient teaching is defined as the process through which patients achieve a good understanding of their physical condition and accomplish self-care through the use of different experiences and resources. The goal of education is to enable patients not only to understand their current health condition but also to be capable of making healthcare-related decisions (**Redman, 2009**)

Patient education is required an extensive and planned learning experience that must be achieved by various means of learning methods, teaching, and behavior-changing techniques that have affected the patient's knowledge and health behaviors. Patient teaching is a systematized process and short-term specific that is restricted to a given health-disease condition and aims at self-care given a certain health problem. The nurse's vital role in patient education is very important but also is considered a challenge, particularly in liver transplantation (**Mendes et al., 2013**).

Nurses have an essential role as educators in the different learning needs diseases demand. Therefore, their professionals' scientific background is required with their practice effective strategies to promote changes in patients' behavior and lifestyles. Nurses perform learning activities for patients to promote their health. By doing so, patients can understand the rationale and importance of following the management scheme proposed by the transplantation team, as well as to identify signs and symptoms that may unveil a health-related problem (**Waterman, Robbins, and Peipert, 2016).**

The nurse's role included a discussion with patients and families of the expected hospital course and the risks and benefits of transplantation. In many cases during the intraoperative stage, it is the clinical nurse transplant coordinator who periodically informs the family regarding the patient's progress start from the admission of the patient to the operating theatre until they are transferred to the intensive care unit. In the postoperative stage, education is focused on the patient's condition, treatment, and monitoring equipment. All aspects regarding the patient's medication, nutrition, and daily activity are also should be discussed. In the surgical unit, nursing staff should provide education by focusing on the return to normal daily activity, medication, and diet (**Sasso et al., 2015).**

Education about practice is also considered necessary such as care, wound dressing, and maintenance. Discharge planning can decrease problems and risk factors such as diabetes, hypertension, wound and infection, and intravenous medications. Another booklet regarding patient care following discharge is provided in some institutions (**Bufton, 2015).**

The nurse reviews the information about discharge medications and outpatient follow-up care is discussed 24 hours before discharge. Following discharge, education focuses on reinforcing post-transplantation issues related to self-care, diet, physical activities, an adaptation of the home environment, and monitoring for late adverse effects of the transplant (**Cerezo et al., 2011**).

Significance of the study:

Liver transplantation patients need to be equipped with sufficient knowledge regarding daily activity, medication, and nutrition to avoid complications and to save their life. It was observed that the patients undergoing (LT) needed teaching guidelines about liver transplantation to maintain health. Hence, this study was conducted to assess the effect of teaching guidelines on patient knowledge post-LT after hospital discharge.

Aim of the study

The study aimed to assess the effect of teaching guidelines on patient knowledge post-liver transplantation after hospital discharge through:

-   Assessing patient knowledge level after hospital discharge regarding LT after teaching guidelines.

-   Implementing and evaluating the effectiveness of teaching guidelines on post-LT patients' knowledge after hospital discharge.

Research hypothesis:

Patients who will receive the teaching guidelines about LT; their knowledge will be affected positively and improved after hospital discharge.

Subjects and Methods:

Research design:

A quasi-experimental research design was used in this study. A quasi-experimental design is an empirical study used to estimate the causal impact of an intervention on its target

population without random assignment (**Creswell, 2012**).

Setting:

The study was conducted at Gastrointestinal Surgery Center and Liver Transplantation at Mansoura University Hospital. It's ranked the fourth internationally in the world in liver transplantation. The Liver Transplant Center has been built according to international specifications on an area of 650 meters, and includes 10 places for outpatient clinics, operations, intensive care, engineering management and a general, management, and a stands teaching, 3 for patient accommodation, and a scientific research role.

Subjects:

Purposive sample of 60 patients post-liver transplantation was involved in the study from the previously mentioned setting.

Inclusion criteria:
1- Post-operative patients post-liver transplantation without post-operative complications post-discharge in the follow-up period.
2- Adult and from both gender.
3- Agree to participate in the study

Tools of data collection:

One tool was used to collect the data of the study as the following:

Tool I: Structured interviewing questionnaire: it was developed by researchers and consisted of two parts as follow after reviewing the related literature: **(Potter & Perry (2011)**

Part (1): It included demographic data of the patient's post-liver transplantation such as age, gender, educational level, working status, and residence.

Part (2): Patients' knowledge regarding post-liver transplantation after hospital discharge to assess the level of patient's knowledge, it was contained 40 items regarding liver transplantation surgery, such as; definition, causes, warning signs for post-operative complications, wound dressing, nutrition, daily activity, medication, the warning signs of complications post-surgery, signs & symptoms of rejection, preventive measures

of infection, and follow up. Each question was answered by the patients either yes or no. The scoring system was (0) if the answer is no and (1) if the answer is yes with a total grade of 40.

Scoring system of knowledge:

The level of the patient's knowledge was considered unsatisfactory when less than 60%, while $\geq$ 60%, the patient level of knowledge was considered as satisfactory level.

The researchers prepared educational material (booklet) after reviewing related literature regarding post-liver transplantation and given it to all study participants, patients. Its objective is to equip patients with sufficient knowledge to help maintain their health after liver transplantation

It was contained information regarding:

- Introduction about liver transplantation

- Definition of liver transplantation

- Causes of liver transplantation

- Complications after liver transplantation

- Nutrition for patients after liver transplantation

- Medication

- Daily activity of patients after liver transplantation

- The warning signs of complications post-surgery

- Signs & symptoms of rejection

- Preventive measures of infection

- Follow up for patients after liver transplantation

Tool validity and reliability:

The content validity of the tool was reviewed by five experts in the medical-surgical nursing field for testing its clarity, comprehensiveness, and appropriateness to test the content validity before using it in the study. Modifications were done according to the panel's judgment. The Cronbach's α test was used to assess the reliability of the questions relating to knowledge, which was 0. 83.

Operational Design:

A-Preparatory phase: The researchers conducted this phase by reviewing international related literature concerning the various aspects of the research problem. This phase helped the researchers to be familiar with the seriousness of the problem, and the researchers are directed by sample information to help them to prepare adequately the required data collection tools.

Pilot study

A pilot study was conducted on 10% of the studied sample (6 patients) to assess the clarity and test the feasibility of the research process and needed modifications were carried out based on the results of the pilot study to develop the final form of the tools. Patients involved in the pilot study were excluded from the study.

Fieldwork:

The study was started at the beginning of March 2016, and completed by the end of September 2016 (six months). The interview took approximately 30-40 minutes for each patient to answer and fill the questionnaire. The researchers visited the previously mentioned setting 2 days/week, from 9.00 am to 12.00 pm. To fulfill the aim of this research, the following phases were adopted, preparatory phase, interviewing and assessment phase, implementation of the educational intervention phase, and evaluation phase.

B- Interviewing and assessment phase: In this phase the researchers interviewed the patients to collect baseline data (pre-test). This phase had a period of 6 months. At the beginning of the interview, the researchers welcomed the participating patients, explained the purpose of the research and familiarized them with all information about the research (purpose, duration, and activities), and obtained their oral consent to participate in the research.

C- Implementation of the teaching guidelines phase:

The guidelines were used as supportive material and given to patients in the Arabic language to cover all the knowledge about liver transplantation after reviewing the related literature based on the assessment of the actual needs of the studied patients. Different teaching methods were used such as lectures, and discussion. Different media of teaching as pamphlets, pictures, posters were used.

The teaching guidelines included knowledge about liver transplantation as follow:

- Nutrition

- Medication

- Daily activity

- The warning signs of complications post-surgery

- Signs & symptoms of rejection

- Preventive measures of infection

- Follow up

D- Evaluation phase: This phase was evaluated two months after implementation of teaching guidelines using the same format of tools that were used to evaluate knowledge of patients regarding post-liver transplantation.

Administrative and ethical considerations:

Administrative permission was obtained through an issued letter from the Dean of Faculty of Nursing, Mansoura University to the director of the Gastrointestinal Surgery Center at Mansoura University Hospital to conduct this study. The aim of the study was explained and the expected outcomes were included in this letter to obtain permission to collect the research data. The researchers informed the participants that, the study was voluntary; they were allowed to refuse to participate in the study. Patients had the right to withdraw from the study at any time, without giving any reason. Patients were assured that their information would be confidential and used for research purposes only.

Statistical analysis:

After completion of data collection, data were revised, coded, computed, and analyzed using statistical package for social sciences (SPSS) version 23. Frequency distribution, percentages, mean and standard deviation were calculated, Chi-square and Paired sample T-test

were used to describe the level of statistical significance which was considered at p < 0.05.

Results:

Table (1): showed that the mean age for the studied patients was 46.59 ± 8.89. Regarding the gender (74%) of the studied patients were males, and (48%) of them were secondary education. Regarding residence, it was found that (87%) of the studied patients were from rural residents.

It was observed from **the figure (1)** regarding working status, that (61%) of the studied patients were not working.

Table (2): showed highly statistically significant differences were detected between the results of the pre & post-teaching guidelines regarding all items except; guidelines regarding medication used. Also, there was a highly statistically significant difference found between pre and post guidelines regarding total level of knowledge at p. (<0.001).

It was noticed from **the table (3)** that 87% of patients had an unsatisfactory level of knowledge before teaching guidelines as compared to 5% after teaching guidelines, While, 95% of them had a satisfactory level of knowledge after teaching guidelines as compared to before (13%) with statistically significant differences (p= 0.001) after teaching guidelines.

Concerning the correlation between patients' knowledge and their age, gender, level of education, residence, and working status, **table (4)** showed a highly significant correlation between patients' knowledge and their age, gender, level of education, residence, and working status.

Table (1): Distribution of studied patients post-liver transplantation according to their demographic characteristics (n=60)

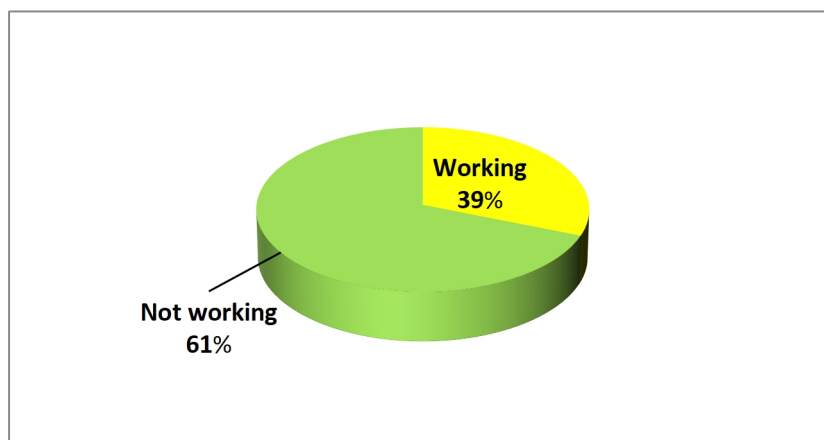| Item	Patients (60)	
	No.	%
Patients ' age in years		
20<40	5	9
40<60	55	91
Mean ±Stander deviation	46. 59±8.89	
Patients ' gender		
Male	44	74
Female	16	26
Patients women ' education		
- Illiterate	5	9
-Basic education	12	20
-Secondary education	29	48
-University education	14	23
Residence		
-Rural	52	87
-Urban	8	13

Figure (1): Distribution of studied patients post-liver transplantation according to their working status (n=60)

Table (2): Distribution of patients post-liver transplantation according to their knowledge pre and post-teaching guidelines (n=60)

Items	Patients knowledge				X2	P-value
	Pre-teaching guidelines		Post teaching guidelines			
	No	%	No	%		
Definition of liver transplantation	18	30	58	97	37.48	<0.001**
Causes of liver transplantation	15	25	54	90	30.24	<0.001**
Warning signs for post-operative surgery	12	20	51	85	51.22	<0.001**
Wound dressing	9	15	52	87	52.32	<0.001**
Signs & symptoms of rejection	21	35	57	95	32.25	<0.001**
Nutrition	5	9	60	100	65.75	<0.001**
Daily activity	16	26	56	94	31.135	<0.001**
Medication	55	92	53	89	0.627	0.426
Preventive measures for postoperative complications and infection	12	20	57	96	49.347	<0.001**
Follow up	24	40	60	100	47.453	<0.001**
Total knowledge level	23	39	49	82	23.382	<0.001**

Table (3): Distribution of the studied patients post-liver transplantation regarding their levels of knowledge pre and post-teaching guidelines about liver transplantation (n=60)

Items	Patients' knowledge levels			
	Pre-teaching guidelines		Post teaching guidelines	
	No	%	No	%
Unsatisfactory	52	87	3	5
Satisfactory	8	13	57	95
X2= 31.328, p-value=<0.001**				

Table (4): Correlation between the studied patients' knowledge and their demographic characteristics

Total knowledge	Age	Gender	Education	Residence	Working status
Pre-teaching guidelines					
R	.833	.527	.912	.463	.827
P	< .001	< .001	< .001	< .001	< .001
Post teaching guidelines					
R	.807	.539	.846	.474	.773
P	< .001	< .001	< .001	< .001	< .001

Discussion:

The complexity and comprehensive nature of the different stages of transplantation require the consistent provision of information with ongoing reinforcement during the preoperative and postoperative stages to evaluate their condition because they need to gain information and ask questions from various members of the transplant team, such as hepatologists, surgeons, psychologists, social workers, dietitians, and clinical nurse transplant coordinator. So, the researchers have conducted this study to assess the effect of teaching guidelines on patient awareness post-LT after hospital discharge.

The results of the present study indicated that the mean age for the studied patients was 46.59 ± 8.89. This result is in the same line with a study conducted by **Burra and Germani (2013)** that studied the quality of life for transplant recipients, Padua University Hospital, Padua, Italy, liver transplantation and found that the age of the liver transplant patients during transplantation, was forty-seven years old. This may be related to that liver transplant patients in Egypt take a lot of time until they found their matching donor and the fund and middle-aged patients had healthy hepatic synthetic function than the older ones.

Regarding gender, the current study revealed that about three-quarters of the studied patients were males. The same results also are reported by **Gad et al., (2015)** who conducted a study about complications and mortality after adult to adult living donor liver transplantation and found that more than two-thirds of the liver transplant patients in the study were males.

Also, this result is congruent with **Mabrouk (2012)** who studied the health-related quality of life in Egyptian patients after (LT), assessment of functional health study among patients with (LT) at Dar El- Fouad hospital and found that most of the patients were males. The researchers reflected these findings to that about three-quarters of the patients were from rural areas and usually, males were more affected by bilharziasis due to their swimming in the canal which affected their liver.

The present study findings reported that less than half of studied patients were secondary educated. This finding is in agreement with **Banker (2010)** who conducted a study about the positive effect of medication on health. Also, **Masala et al. (2012)** who studied the quality of life and physical activity in (LT) patients they found that around half of liver transplant recipients in their study were at high school. This finding could be due to that patients with high education level are more oriented about liver transplantation surgery than another group of studied patients.

Regarding residence, the present study findings revealed that the majority of the studied patients were from rural areas. This result is following **Karman (2013),** who conducted a study about demographic predictors of depression influencing the quality of life among renal transplant recipients, and found that the majority of liver transplant patients were from non-capital cities.

The findings of the present study revealed that highly statistically significant differences were detected between the results of the pre & post-teaching guidelines regarding all items except; guidelines regarding medication used. Also, there was a highly statistically significant difference found between pre and post guidelines regarding total level of knowledge at p. (<0.001). Regarding improved knowledge about medications, this is maybe due to the improvement of patient's knowledge regarding medications doses, effects, side effects, precautions which were mentioned during the teaching sessions and the booklet.

The finding of the present study indicated the improvement of patients' condition post-surgery. These results are supported by **Abdo**

(2012) who studied the health-related quality of life of Saudi hepatitis B and C patients and found in his study concerning the comparison between before and three months after transplantation, there was a significant improvement.

This finding coincided with that of **Hazem et al. (2010)** who conducted a study about Day-of-surgery rejection of donors in living donor liver transplantation and found that statistically positive correlations between the postoperative activity of daily living and patient's knowledge. This result has reflected the improvement of the patients' knowledge and the importance and positive effects of teaching guidelines.

These results go on the same line with **Tayebi and Ali (2008)** which studied liver The lived experiences of liver transplantation and found that almost half of the subjects got a satisfactory level of general knowledge about measures of infection prevention. They may be attributed to that the simplicity of information given in the teaching guidelines.

Similary, **Ring, and Strong (2008)** found in their study about the dilemma of living donor death that the majority of liver transplant patients were protected themselves against infection, also this was supported by **Burra and Germani (2013)** who studied the long term quality of life for transplant recipients, Padua University Hospital, Padua, Italy, liver transplantation and found that patient's knowledge regarding nutrition was improved.

This finding is in agreement with **Timms (2011)** who reported that patients undergoing surgery their information about the follow-up schedule for a long period has improved. This result due to that the patients convinced the follow-up schedule to improve their physical status and provide them with assurance about their condition; and their daily activities.

The present study findings reported that the majority of patients had an unsatisfactory level of knowledge before teaching guidelines which improved after teaching guidelines. This indicated the success of teaching guidelines on improving the knowledge of patients with LT.

the previous result consistent with **Abdelhameed et al., (2013)** who studied in

Egypt the" Impact of a Designed Nursing Intervention Protocol on Myocardial Infarction Patient's Outcome at a Selected University Hospital" found that, post total knowledge scores of his studied patients were increased significantly as a result of the implementation of the educational program.

Also, this finding is in agreement with **Mendes et al. (2013)** in their study titled "Educational Intervention for LT candidates" and found in analyzing the correct answers of a knowledge assessment on transplantation process before and after the educational intervention, that a statistically significant difference was observed.

Similary, **Karina, et al., (2013)** found that the practice of patient education strategy can enhance their knowledge about the liver transplantation process and consequently contribute to a successful treatment.

The current result reflected the positive effect of information included in the booklet and following teaching guidelines from the researchers and the awareness of the patients about the importance of following teaching guidelines in their life.

Conclusion:

There was a highly statistically significant improvement of knowledge regarding LT found between pre and post guidelines regarding total level of knowledge about discharge plan.

Recommendations:

The results of this study recommended the following:

- Teaching guidelines should be provided for patients undergoing liver transplantation start from admission until discharge from the hospital.

- A simple booklet should be provided for patients undergoing liver transplantation including all aspects such as (medications, nutrition, daily activity, follow-up and early warning signs of infection and its prevention which may be a guide and reference to them.

- Replication of the study on a larger population selected from different geographical areas in Egypt and should be generalized.

References:

Abdelhameed, A., Mohammad, W., Seloma, Y. & Zaghla, H., (2013): Impact of A Designed Nursing Intervention Protocol on Myocardial Infarction Patient's Outcome at a Selected University Hospital in Egypt. Journal of Biology, Agriculture, and Healthcare; 3(17):4-9.

Abdo, A. (2012): Health-Related Quality of Life of Saudi Hepatitis B and C Patients. Saudi Med; 32(4):397- 403.

Amer, K. & Marwan, I. (2016): Living Donor Liver Transplantation in Egypt. Hepatobiliary Surg Nutr; 5: 98-106.

Banker, M. (2010): Understanding The Positive Effect of Medication on Health. J. Health Nutrit; 3(1): 511-6.

Belloni, L., Alleseiss, L., Guerrieri, F., Pediconi, N., Volz, T. & Pollicino, T. (2012): IFN-α Inhibits HBV Transcription and Replication in Cell Culture and Humanized Mice by Targeting The Epigenetic Regulation of The Nuclear DNA Minichromosome. Clin Invest; 1, 122 (2): 529-537.

Bufton S. (2015): Development of an Educational Booklet for Children of Adult Liver Transplant Recipients. Progress in Transplantation; 15:33-35.

Burra, P. & Germani, G., (2013): Longterm Quality of Life for Transplant Recipients, Padua University Hospital, Padua, Italy, Liver Transplantation; 19:540-543.

Cerezo M., Simón C., Muñoz M., Ramanillos M., Agustí IT and Canales P. (2011): Studies of Process Educative En El Patient Con Transplant Hepatic. Enfermería Intensive; 12:58-65.

Creswell, J. W. (2012): Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson.

Gad EH, Al Sebaey A, Lotfy M, Eltabbakh M. & Sherif AA (2015): Complications and Mortality after Adult to Adult Living Donor Liver Transplantation: A Retrospective Cohort Study. Annals of Medicine and Surgery 4(2): 162-171.

Habib M, Mohamed MK, Abdel-Aziz F, et al. (2013): Hepatitis C Virus Infection in a Community in The Nile Delta: Risk Factors for Seropositivity. Hepatology; 33:248–253.

Hazem, M., Bassem, H., Mohamed, R., Abdelfattah, A., Azzam, W. & AlHamoudi, F. (2010): Day-of-Surgery Rejection of Donors in Living Donor Liver Transplantation. World J Hepatol; 4(11): 299-304.

Hinkle J., L., Ph.D., RN, CNRN. & Cheever K., H., Ph.D., RN. (2014): Brunner Suddarth's Textbook of Medical-Surgical Nursing, (13th ed.), Lippincott. Williams, Wilkins, New York, London, Pp. 1366- 1386.

Karina D. M., Orlando C. J.; Luciana C. Z., Fabiana M. R., Márcia F. Z., Cristina M. G. (2013): Educational Intervention for Liver Transplantation Candidates, Rev. Latino-Am. Enfermagem vol. 21 no. 1 Ribeirão Preto Jan./Feb, https: //doi. org/ 10. 1590/S0104-11692013000 100018

Karman, F. (2013): Demographic Predictors of Depression Influencing Quality of Life Among Renal Transplant Recipients. International Journal of Research Studies in Psychology; 2(2): 43-60.

Mabrouk, M., (2012): Health-Related Quality of Life in Egyptian Patients After Liver Transplantation. Annals of Hepatology; Vol. 11(6): 882-890

Masala, D., Mannocci, A., Unim, B., Del Cimmuto, A., Turchetta, F., Gatto, G., Santoro, R., Ettorre, G., Boccia, A. &

La Torre, G. (2012): Quality of Life and Physical Activity in Liver Transplantation Patients: Results of A Case-Control Study in Italy. Transplant Proc; 44(5): 1346-50.

Mendes, K.D., Jundior, O.C., Ziviani, L.C., Rossin, F.M., Zago, M.M. & Glavao, C.M. (2013): Educational Intervention for Liver Transplantation Candidates. Revista Latino-Americana de Enfermagem; Vol. 21(1): 419-425.

Potter, P. & Perry, A. (2011): Fundamentals of Nursing,(8th ed.), Mosby, Inc., Elsevier, St Louis, Missouri, pp.63-146.

Redman BK. (2009): Patient Adherence or Patient Self-Management in Transplantation: An Ethical Analysis. Prog Transplant; 19 (1): 90-4. [Links]

Ring, B. & Strong, R. (2008): The Dilemma of Living Donor Death: To Report or Not to Report? Transplantation; 85: 790-793.

Sasso KD, Galvão CM, Castro-e-Silva O Jr, and Franca AV. (2015): Liver Transplantation: Teaching Strategies Used with Patients Waiting for Surgery. Revista Latino-Americana de Enfermagem; 13: 481-488.

Tayebi, Z. & Ali, A. (2008): The Lived Experiences of Liver Transplantation; 13(2): 1-6.

Timms, A. (2011): Royal College of Nursing Guidance on Follow up Retrieved from www. rnc. org. uk/-data/pdf.

Waterman AD, Robbins ML, Peipert JD. (2016): Educating Prospective Kidney Transplant Recipients and Living Donors about Living Donation: Practical and Theoretical Recommendations for Increasing Living Donation Rates. Current Transplantation Reports; 3:1–9. [PMC free article] [PubMed] [Google Scholar]