Health-Related Quality of Life in Adult Orthotopic Liver Transplant Recipients: A Tertiary Care Hospital Experience

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Conflict of Interest: None declared

This article has been peer reviewed.

Article Submitted on: 13th April 2016

Article Accepted on: 10th September 2016

Funding Sources: None Declared

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Cite this article: Assad S, Khan HH, Rahman MA, KKhan ZH, Hassan L, Assad S, Tariq U, Abid Q, QureshIMO, Shah NH. Health-related quality of life in adult orthotopic liver transplant recipients: a tertiary care hospital experience. J Pioneer Med Sci. 2017; 7(1):1-4

ABSTRACT

BACKGROUND: Orthotopic liver transplantation (OLT) includes the implantation of partial or complete liver graft from a living or deceased donor into the recipient. The purpose of this study is to analyze health associated quality of life among OLT recipients.

METHODS: This study was conducted at a tertiary care center from January 2011 to January 2015. The quality of life questionnaire was completed before OLT and 6 months after OLT by 32 patients.

RESULTS: Mean age of liver transplant recipients was 45±11 years, body mass index (BMI) was 24.2±4.2 kg/m2 and 28/32 (87.5%) patients were males. Good health was reported by 96.9% after OLT in contrast to 81.2% patients before OLT (p=0.0001). Vigorous exercise capability was 40.6% after OLT in contrast to 28.1% before OLT (P=0.43).

CONCLUSION: We found a significant increase in quality of life scores among patients who underwent OLT. However, compared to pre-OLT, recipient's participation in vigorous activities did not change 6 months after OLT.

Keywords: Orthotopic Liver; Health-related Quality; Transplant; Donors

INTRODUCTION

Orthotopic liver transplantation (OLT) includes the implantation of partial or complete liver graft from a living or deceased donor into the recipient with limited liver function due to various causes including cirrhosis. Cirrhosis is an irreversible disease and is characterized by fibrotic scar tissue along with regenerative nodules ultimately leading to loss of hepatic function [1].Hepatitis B virus (HBV) and hepatitis C virus (HCV) in developing countries and alcohol consumption in western countries is responsible for hepatic cirrhosis. Alcoholic liver disease or alcoholic liver cirrhosis develops in 10 to 20% of people who drink heavily for a decade or more [2].Available data show that cirrhosis affects about 0.1 % of the European population, corresponding to 14-26 new reported cases per 100,000 people each year or 170,000 deaths each year [3].

In 1988 the first living donor liver transplant of a child who received a part of an adult liver was performed. Since then, liver transplantation has become a suitable mean for managing the advanced liver disease. Liver transplantation is a life-saving therapy for end-stage liver disease that improves the quality of life [4, 5]. This study was conducted to evaluate the quality of life after liver transplantation in terms of both physical and mental health. This research article is unique because the effect on quality of life after liver transplantation has never been conducted before in Pakistan.

METHODS

We conducted a study on health associated quality of life among 32 living donor liver transplant (LDLT) recipients at Shifa International Hospital Pakistan from January 2011 to January 2015. A telephone interview was

conducted with liver transplant recipients after verbal informed consent. All patients who had their liver transplant more than 6 months ago were included. We excluded patients who did not present for evaluation of liver transplantation, those who did not complete questionnaire regarding the quality of life and those who have incomplete data for analyses. Informed consent was taken from liver transplant recipients and the study was approved by Shifa International Hospital institutional review board. Health-related questionnaire based on SF-36 (short form-36) consisting of 15 questions were asked by gastroenterology post-graduate training fellows from patients through either telephonic interview or out-patient based setting. The SF-36 form was applied both before and 6 months after liver transplantation. All fellows attended a workshop on quality of life questionnaire administration and application. The questionnaire is based on the SF-36 (short form-36) in order to analyze the health associated quality of life. Continuous data were summarized by using frequency and percentage. Logistic regression analysis was utilized to compute P values.

RESULTS

Mean±standard deviation age of liver transplant recipients was 45±11 years and mean body mass index (BMI) was 24.2±4.2 kg/m2. Of the 32 participants, 28 (87.5%) were males.Pre-transplant diagnoses among transplant recipients were; hepatitis B, hepatitis C, autoimmune, primary hepatocellular carcinoma, cryptogenic cirrhosis, primary biliary cirrhosis, and primary sclerosing cholangitis. Etiologies of transplantation among women were; hepatitis B 2/4 (50%), hepatitis C 1/4(25%) and primary hepatocellularcarcinoma 1/2 (25%). The overall patient perception of health, as well as the variety of activities possible for them, improved after OLT (Table 1). Of the 32 patients, 31 (97%) ranked their health as 'good' after OLT as compared to 6 (19%) patients before OLT (P=0.0001). Twenty (62.5%) and 16 (50%) patients after OLT were able to bend or kneel (20 vs. 9; P=0.01) and bath or dress themselves (16 vs. 7; P = 0.04) respectively than before OLT. As compared to before OLT, the patient reported much fewer problems with physical health (26 vs. 2; P<0.001) or with social activities (22 vs. 3; P<0.001).

DISCUSSION

In our study, liver transplantation had a positive impact on the lives of recipients and we report a significant improvement in the quality of life. In our study, only 1 patient out of 32 total patients was not satisfied with his health after OLT. 84.4% post-OLT patients in our study had no problems with emotional feelings like depression or anxiety (p=0.003) compared to Grover S et al. study that showed significant psychological and social disturbances in patients after liver transplantation [6]. Our study results are consistent with the results reported by Singh et al. who compared the quality of life among hepatitis C virus patients before and after a liver transplant [7].Results were assessed 6 months after transplant and all aspects of health associated quality of life had significantly improved.

Among the components of quality of life, only a few had statistically significant improvement after OLT. While we may have seen these results due to small sample size in our study, other studies also found improvement in only a limited number of dimensions. M.A Pérez-San-Gregorio et al. assessed 14 quality of life dimensions in post-transplant patients and found that although there was an immediate improvement in the dimensions, but by the end of the first year after transplant, 3 of the dimensions were unchanged namely; body pain, role limitation in case of emotional problems and anxiety-depression [8]. Another study conducted by Sargent et al. found no improvement in psychological dimension after liver transplantation [9]. This is in contrast to our survey results where improvement was seen with emotional feelings including depression and anxiety after OLT (P=0.003). The side effects that ensue following the transplant are very upsetting for the patients and therefore negatively affect those improvements that are expected from the transplantation [10]. This has a negative impact on the patient psychologically [11, 12]. Patients undergoing liver transplant usually have adequate information about the surgical procedure and pre-operative preparation but might have inadequate information about the post-surgical treatment [13]. Health associated quality of life usually become stable at 3 months after liver transplantation as the patient starts routine physical and social activities and the patient, as well as patient's family, recovers psychologically from the emotional impact of the procedure and fear of rejection of the transplanted organ [14-17]. This study has some limitations as it is a single-center analysis, a relatively smaller group ofpeople with access to the private sector for liver

Table 1: Health-Related Quality of life in liver transplant recipients

Questions Asked	Responses	Before OLT	After OLT	P value
1.General Health	Good	6 (18.8%)	31 (96.9%)	0.0001
2.Vigorous activities, running, lifting heavy objects, strenuous sports	Yes	9 (28.1%)	13 (40.6%)	0.43
4.Lifting or carrying groceries	Yes	14 (43.7%)	17 (53.1%)	0.62
5.Climbing stairs	Yes	11 (34.3%)	15 (46.9%)	0.44
6.Bending or Kneeling	Yes	9 (28.2%)	20 (62.5%)	0.01
7.Bathing or Dressing	Yes	7 (21.8%)	16 (50%)	0.04
8. Past 4 weeks having problems due to physical health?	Yes	26 (96.8%)	2 (6.3%)	0.0001
9.Past 4 weeks having problem in social activities (family, friends and neighbors)	Yes	22 (69%)	3 (9.3%)	0.0001
10.Past 4 weeks having problem due to emotional feelings (depressed or anxious)	Yes	17(53.1%)	5 (15.6%)	0.003
11.Bodily Pains	Yes	19 (59.3%)	9 (28.1%)	0.02
12. Have you been a nervous person?	Yes	14 (43.7%)	6 (18.7%)	0.06
13. Have you felt calm and peaceful?	Yes	17(53.1%)	27 (84.4%)	0.01
14. Are you a happy person?	Yes	11 (34.3%)	28 (87.5%)	0.0001
15. Do you feel tired?	Yes	27 (84.3%)	9 (28.1%)	0.0001

transplantation were included, and hence results cannot be generalized to other population groups.

CONCLUSION

In conclusion, we found that health associated quality of life measures improve after liver transplantation. Recipients continue to have both mental and physical limitations after transplantation and at six months after liver transplantation, recipient's involvement in vigorous activities like carrying grocery was no different that of before transplantation.

REFERENCES

1. Ullah F, Khan S, Afridi AK, Rahman S. Frequency of different causes of cirrhosis of liver in local population. *Gomal Journal of Medical Sciences*. 2012; 10:2.
2. Andrade L, D'Oliveira A, Melo R, De Souza E, Silva C, Parana R. Association between hepatitis C and hepatocellular carcinoma. *Journal of Global Infectious Diseases.* 2009; 1(1):33.
3. Blachier M, Leleu H, Peck-Radosavljevic M, Valla D, Roudot-Thoraval F. The burden of liver disease in Europe: A review of available epidemiological data. *Journal of Hepatology.* 2013; 58(3):593-608.
4. Russell R, Feurer I, Wisawatapnimit P, Lillie E, Castaldo E, Wright Pinson C. Profile of health-related quality of life outcomes after liver transplantation: univariate effects and multivariate models. *HPB*. 2008; 10(1):30-37.
5. Tanikella R, Kawut S, Brown R, Krowka M, Reinen J, Dinasarapu C et al. Health-related quality of life and survival in liver transplant candidates. *Liver Transplantation.* 2010; 16(2):238-245.
6. Grover Sarkar S. Liver Transplant—Psychiatric and Psychosocial Aspects. *Journal of Clinical and Experimental Hepatology*. 2012; 2(4):382-392.
7. Singh N, Gayowski T, Wagener M, Marino I. Quality of life, functional status, and depression in male liver transplant recipients with recurrent viral hepatitis C.*Transplantation.* 1999; 67(1):69-72.
8. Perez-San-Gregorio M, Martin-Rodriguez A, Perez-Bernal J, Maldonado M. Quality of Life in Spanish Patients with Liver Transplant. *Clinical Practice & Epidemiology in Mental Health.* 2010; 1(1):79-85.
9. Sargent SWainwright S. Quality of life following emergency liver transplantation for acute liver failure. *Nursing in Critical Care.* 2006; 11(4):168-176.
10. Åberg F, Rissanen A, Sintonen H, Roine R, Höckerstedt K, Isoniemi H. Health-related quality of life and employment status of liver transplant patients. *Liver Transplantation.* 2009; 15(1):64-72.
11. Tanikella R, Kawut SM, Brown RS, et al. Health-Related Quality of life and survival in liver transplant candidates. *Liver Transpl*. 2010; 16 (2): 238-45.
12. Ratcliffe J, Longworth L, Young T, Bryan S, Burroughs A, Buxton M. Assessing health-related quality of life pre- and post-liver transplantation: A prospective multicenter study. *Liver Transpl*. 2002; 8 (3):263-70.
13. Dudley T, Chaplin D, Clifford C, Mutimer DJ. Quality of life after liver transplantation for hepatitis C infection. *Qual Life Res*. 2007; 16 (8): 1299-308.
14. Marcen R, FernándezAM. Quality of Life and immunosuppressant. Barcelona, Spain. *Editions Mayo.* 2006:83-7.
15. Pérez MA, Martín A, Asián E, Pérez J. Symptoms of

anxiety and depression in liver-transplant patients. *Spanish Act Psychiatry*.2004; 32:222-6.
16. Pérez MA, Martín A, Galán A, Blanco A. Quality of life in the health: Some investigations in the hospitable environment. *Colomb J Psychol*. 2005; 14: 64-72.
17. Wiesner R, Edwards E, Freeman R, Harper A, Kim R, Kamath P, et al. Model for end-stage liver disease (MELD) and allocation of donor livers. *Gastroenterology*. 2003; 124 (1): 91-6.