A study to assess quality of life (QOL) after liver transplant among patients residing in selected areas.

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ABSTRACT : Background: QOL after deceased donor liver transplantation is increasingly recognized as a major outcome parameter. QOL does improve after liver transplantation according to a typical pattern. Purpose: The purpose of the study was to assess quality of life after liver transplant among patients & find out association between selected demographic. Material & Method: A exploratory research design was used for 100 patients of liver transplant from Pune city. Non-Probability Purposive sampling methods was used to collect data. QOL was assessed by using Modified Ferrans and Powers Quality of Life index scale was used on 6 point rating scale. The data was collected and analyzed based on the objective using both descriptive and inferential stastics. Results: The study shows that majority (37) 37% patients were from age group 21 to 40 years, Majority (53) 53% patients completed secondary education, Majority patients (53) 53% were from joint family, Majority (53) 53% patients have living donor liver transplant & majority 46% patients have 13 months up to 18 months duration of transplant. The study revealed that 79% patients were moderately Satisfied (81-100) with their quality of life. 14% were slightly satisfied (61-80). 6% were slightly dissatisfied (41-60) and remaining 1% very dissatisfied with quality of life. The mean value is 86.76 and standard deviation 0.707107. Chi-square associations reveal that there is significant association between Education, Family Income and type of transplant with quality of life at 0.05 level of significance. Conclusion: It is important to assess the level of QOL after liver transplant in patients to know their satisfaction to cope with the situation. If patients are dissatisfied then counseling and guidance by trained professional can help them to achieve QOL after liver transplant. Patients can meet other patient living with liver transplant to know their experience improve their quality of life.

Keywords: assess, QOL, liver transplant & patients.

INTRODUCTION
Liver transplantation is a treatment option for end-stage liver disease and acute liver failure, although availability of donor organs is a major limitation. The most common technique is orthotopic transplantsation, in which the native liver is removed and replaced by the donor organ in the same anatomic position as the original liver. The surgical procedure is complex, requiring careful harvest of the donor organ and
meticulous implantation into the recipient. Liver transplantation is highly regulated, and only performed at designated transplant medical centers by highly trained transplant physicians and supporting medical team. The duration of the surgery ranges from 4 to 18 hours depending on outcome. Favorable outcomes require careful screening for eligible recipient, as well as a well-calibrated live or cadaveric donor match. Liver transplantation is a potential treatment for acute or chronic conditions which cause irreversible and severe ("end-stage") liver dysfunction. The transplant operation can be conceptualized as consisting of the hepatectomy (liver removal) phase, the anhepatic (no liver) phase, and the post implantation phase. The operation is done through a large incision in the upper abdomen. The hepatectomy involves division of all ligamentous attachments to the liver, as well as the common bile duct, hepatic artery, hepatic vein and portal vein. Usually, the retrohepatic portion of the inferior vena cava is removed along with the liver, although an alternative technique preserves the recipient's vena cava ("piggyback" technique). The donor's blood in the liver will be replaced by an ice-cold organ storage solution, such as UW (Viaspan) or HTK until the allograft liver is implanted. Implantation involves anastomoses (connections) of the inferior vena cava, portal vein, and hepatic artery. After blood flow is restored to the new liver, the biliary (bile duct) anastomosis is constructed, either to the recipient's own bile duct or to the small intestine. The surgery usually takes between five and six hours, but may be longer or shorter due to the difficulty of the operation and the experience of the surgeon. The large majority of liver transplants use the entire liver from a non-living donor for the transplant, particularly for adult recipients. A major advance in pediatric liver transplantation was the development of reduced size liver transplantation, in which a portion of an adult liver is used for an infant or small child. Further developments in this area included split liver transplantation, in which one liver is used for transplants for two recipients, and living donor liver transplantation, in which a portion of a healthy person's liver is removed and used as the allograft. Living donor liver transplantation for pediatric recipients involves removal of approximately 20% of the liver. Further advance in liver transplant involves only resection of the lobe of the liver involved in tumors and the tumor-free lobe remains within the recipient. This speeds up the recovery and the patient stay in the hospital quickly shortens to within 5–7 days. Many major medical centers are now using radiofrequency ablation of the liver tumor as a bridge while awaiting for liver transplantation. This technique has not been used universally and further investigation is warranted.
Further advance in liver transplant involves only resection of the lobe of the liver involved in tumors and the tumor-free lobe remains within the recipient. This speeds up the recovery and the patient stay in the hospital quickly shortens to within 5–7 days. QOL does improve after liver transplantation according to a typical pattern. During the first year, there is a significant improvement in QOL. According to a study, people who have a liver transplant have an 89% percent chance of living after one year. The five-year survival rate is 75 percent. Sometimes the transplanted liver can fail, or the original disease may return. It’s important that our doctor monitors our recovery long after the transplant to detect any problems. We’ll likely need regular blood tests. According to Johns Hopkins, we’ll also need to take antirejection medications for the rest of our life.

After the liver transplant, patients will be in the intensive care unit for two days. After that, they are in the regular part of the hospital for about eight to ten days. They then go home, though they may not feel all the way better for up to three months. After that, they tell me they feel their normal state of good health.

After one year, the improvement does stabilize and tends to decline slightly. In addition to the physical condition, different psychological parameters (such as depression, anxiety, sexual function) and socio-demographic elements (professional state, sex, and marital state) seem to impact QOL. Opportunities for further research are the use of dedicated questionnaires and identification of influencing factors for QOL.

MATERIAL & METHOD:
In present study, researcher adopted exploratory research design. It identify and assess the quality of life after liver transplant. The researchers also described the association with demographic variables. The population of present study comprises of Patients after liver transplant residing in selected areas of Pune District.

Inclusion criteria: All patients who are post liver transplant, age group 21 years and above & who understand English, Hindi, Marathi will be included in the study.

Exclusion criteria: This study excludes those who are chronically ill.

DESCRIPTION OF TOOL
The tool include two sections:
Section I:Socio-Demographic Data
Section II: Modified Ferrans and Powers Quality of Life index scale on 6 point rating scale.

**PLAN FOR DATA ANALYSIS**

Data analysis was planned to include descriptive and inferential statistics. Descriptive analysis was used for the analysis of the demographic data of patients.

- Selected Socio-Personal variables would be analyzed in terms of Frequency and Percentage.
- Association was done by using Chi square.

**RESULTS:**

**Section 1**

**Description of patients according to their demographic characteristics**

Demographic findings show that majority (37) 37% patients were from age group 21 to 40 years and 41 to 60 years and remaining (26) 26% from 61 and above. Most of the patients were male and remaining (47) 47% female. Majority (53) 53% patients completed secondary education, (6) 6% were illiterate. Most of the patients (53) 53% were from joint family and remaining (47) 47% from nuclear family. (39) 39% patients have family income Rs. 50,001 to 1,00,000/- and (36) 6% less than 10,000/- . Majority (53) 53% patients have living donor liver transplant and remaining (47) 47% diseased donor liver transplant. (46) 46% patients have 13 months up to 18 months duration of transplant, (10) 10% after discharge up to 6 months.

![Distribution of Type of transplant](image-url)
Section II
Findings related to Quality of Life after Liver transplant among patients

n=100
Findings related to Quality of Life after Liver transplant among patients shows that Majority 79% patients were moderately Satisfied (81-100) with their quality of life. 14% were slightly satisfied (61-80). 6% were slightly dissatisfied (41-60) and remaining 1% very dissatisfied with quality of life. The mean value is 86.76 and standard deviation 0.707107.

Section III
Findings related to the association of QOL with selected demographic variables.

Associations of demographic findings depicts that there is significant association between Education, Family Income and type of transplant with quality of life at 0.05 level of significance.

DISCUSSIONS:

- The first objective of the study is to identify quality of life of patient after liver transplant. The data collected was analyzed. Among 100 patients that quality of life of patient after liver transplant have Majority 79% patients were moderately Satisfied (81-100) with their quality of life. The mean value is 86.76 and standard deviation 0.707107. The present study was supported by the study conducted by E.D. Kosmacheva et al, (2019) liver recipient quality of life analysis. The aim of the study – to evaluate the quality of life of patients after liver transplantation. The results: In the surveyed group, the average indicators on the
scales «physical functioning» were reduced by 31.3%, «role functioning due to physical condition» - by 60.8%, «pain intensity» - by 13.2%, «general health condition» - by 33.4%, «Life activity» by 19.9%, «social functioning» by 19.8%, «emotional role functioning» by 52.9%, «mental health» by 11.7%, «physical component of health» by 24.5% and «psychological component of health» by 15.6% and the significance levels of chi-square criteria are less than 0.05

Conclusions: Liver recipients have the lowest quality of life on the role-playing scale due to their physical condition compared to healthy liver recipients. A moderate statistically significant relationship between hepatitis grafts and psychological health.\(^{(44)}\)

- **The second objective of the study is to find association between quality of life score & selected demographic variable.**

- There is significant association between Education, Family Income and type of transplant with quality of life at 0.05 level of significance. The present study was supported by M Dąbrowska-Bender - et al, (2018) to Patient Quality of Life After Liver Transplantation in Terms of Emotional Problems and the Impact of Socio demographic Factors. The study group included 238 patients (128 women and 110 men) who underwent transplantation centres in Warsaw and the Infant Jesus Teaching Hospital in Warsaw due to chronic and acute liver failure. Results: There were no significant correlations found between the subjective quality of life of the examined patients and socio-demographic and clinical variables, such as age, gender, education, status, and time from the organ transplantation. However, a significant correlation was found between the perceived quality of life of patients and the following variables: physical activity, pain and other symptoms, social and family life, and psycho-emotional state.\(^{(45)}\)

**Implication to Nursing**

**Community health nursing practice:**

The community health nursing practice should educate the students and their family members regarding causes, and management of liver transplantation. Nursing care to prepare the patient, prevent injuries, on the importance of a documentation system, prevention and early detection of complications, as well as education on immunosuppressive therapeutics, patient education and nursing activities in the pre,
intra and postoperative periods, and the nurses' role in providing nutritional and emotional support to patients and family members especially on how to inform and support the donor relatives and how to identify potential donors. Nursing students should have adequate knowledge about the liver transplantation so that students can give knowledge regarding care after liver transplantation. In the community, care focuses on maximizing individual potential for self-care regardless of any injury or illness. Community health nursing is a part of the larger public health effort that is concerned with preserving and promoting the health of specific populations and communities. It includes all efforts that seek to move people closer to optimal well-being or higher level of wellness. It is the combination of educational and environmental supports for action and condition of living conductive to health.

**Nursing education:**

The increase demand of organ transplantation and shortage of donor organs increase the need of the participation of public and health care providers in organ transplantation activity. And the first step in the donation process is awareness about the organ donation. Hence educational programme are in great demand especially for health care providers who in turn can motivate the public in donating organs. Patient education promotes patient-centred care and increases adherence to medication and treatments. Educating patients ensures continuity of care and reduces complications related to the illness. Nurses play several roles in the field of liver transplantation. A nurse educates to the patients about the transplant process and provides emotional support. Nurses helps people; providing the knowledge and tools they need to positively impact individual’s lives. Decreasing the possibility of complications by teaching patients about taking caring after the liver transplantation so that it will reduce the number of patients readmitted to the hospital and retaining independence by learning self-sufficiency. Effective patient education starts from the time patients are admitted to the hospital and continues until they are discharged. Without proper education, a patient may go home and resume unhealthy habits or ignore the management of their medical condition. These actions may lead to a relapse and a return to the hospital. Nurses must assess their patients to pinpoint the best way to educate them about their health and determine how much they already know about their condition. Nurses should give
education that how to take care after the liver transplantation through the nursing students while going to communities areas.

**Nursing Administration**

The nursing administrator should have a psycho education call with a group of adequately trained nurses administrator can conduct containing education programme for nurses on new advances regarding liver transplant. In addition to this the personal experience also motivated the investigator to organize a planned teaching programme assisted by video teaching among staff nurses which may help to enhance the knowledge regarding organ donation. Nurse administrator can help to develop the policies and procedures, coordinates between nurses and other departments regarding care after liver transplantation to make decision about how to take care after liver transplantation and patient education. Nursing administration strives to structure nursing work in a way that supports nurses being present for patients and families. Within that relationship, they can bring their unique knowledge while delivering clinical care. Nursing administrator are also responsible for leading, managing physical resources making it necessary to learn skills, knowledge and attitudes appropriate to care after liver transplantation. If the nurse have adequate knowledge about care after liver transplantation then nurse administrator can make decision regarding quality of health care. Assess the center’s commitment to keeping up with the latest transplant technology and techniques to improve the survival outcomes after liver transplantation, health related quality of life. This study to explore health care provider’s perceptions about health related quality of life after liver transplantation. Nursing administrators will know and implements all of the nursing procedures in a healthcare environment. While administrators can communicate with the patients, they will more than likely manage a team of nurses who will work on the front lines interacting with the patients are seen in the facility.

**Nursing Research:**

Educational interventions are effective in increasing interest and improving opinions about cadaveric organ donation. It is focused upon outcomes for patients that are measurable. The nursing research process can be outlines using the nursing process
steps assessment, planning, intervention and evaluation. In the assessment the problem is identified, in the planning the research question and decisions are made on how the variables will be measured and evaluate the findings are communicated. It designed to guide nursing practice to improve the health and quality of the life of patients. Nurses need to documents the effectiveness of their practices not only to the profession, but also to the patients, administrators and other professionals. To initiate activities to promote desired patient outcomes, to understand the varied dimensions of the profession and to describe the characteristics of specific nursing situations. The present study finding serve as a basis for the professionals and the students to conduct further studies on liver transplantation. The nurses and nursing students can conduct same study with different variables on a large sample.

Conclusion
The study is conducted to assess quality of life after liver transplant among patients residing in selected areas. Majority (37%) patients were from age group 21 to 40 years. Majority 79% patients were moderately Satisfied (81-100) with their quality of life. There is significant association between demographic data and type of transplant with quality of life at 0.05 level of significance

Recommendations
- A similar study can be conducted at same age group with large sample.
- A study can be conducted to assess the level of knowledge and practice after liver transplant.
- A similar study can be done by using different teaching methods.
- A similar study can be conducted at different residing areas at same geographical area.

Limitations
- The study was limited to particular geographical areas so representative sampling of whole population hinders generalization.
- The study is limited to the patient who are not undergone the liver transplant.
- The study is limited to the patient who has significant complications due to end-stage chronic liver disease.
- The study is limited to the patient who has presence of some other life threatening disease or condition with liver transplant.
References


4. Mazza, Giuseppe; De Coppi, Paolo; Gissen, Paul; Pinzani, Massimo, "Hepatic regenerative medicine”. Journal of Hepatology, 2015, Volume-63, issue-2, pp.523–524


12. Totti V et al., “Physical Condition, Glycaemia, Liver Function, and Quality of Life in Liver Transplant Recipients After a 12-Month Supervised Exercise Program”,


15. Jogindra bati : Principles and practice of Nursing management & Administration For B.Sc and M.Sc Nursing; Published by Jaypee Brothers 2013


17. Suresh K sharma; 9th june 2018 Nursing research & Statistics; 3rd Edition Published by Elsevier.


19. BT Basavanthappa; Nursing Research & statistics: Third Edition; Published by Jaypee Brothers. 1st Jan 2014.


23. Lucas Souto Nacif, Vera Kim, Flavio Galvão, Suzane Kioko Ono, Rafael Soares Pinheiro, Flair José Carrilho, Luiz Carneiro D’Albuquerque, Translational medical
research and liver transplantation: systematic review. TGH journal, Vol 3 (November 2018)


29. David P. Foley: Simultaneous Liver and Kidney Transplantation Using Organs from Donation after Circulatory Death Donors in the Contemporary Era: We are Getting Better! ISI Journal; Vol 26(1) 28 January 2020 https://doi.org/10.1002/lt.25723

30. Sabrina Cipolletta Alessandra Feltrin, Giacomo Germani, Umberto Cillo and Biancarosa Volpe, was conducted the study on Psychosocial Support in Liver Transplantation: A Dyadic Study with Patients and Their Family Caregivers, Psychol., 10 October 2019.


34. Clerison Stelvio Garcia, Agnaldo Soares Lima, Ehideé Isabel Gómez La-Rotta and Ilka de Fátima Santana Ferreira Boin, A cross-sectional study was conducted with 119 patients, for convenience sampling, from the liver transplant waiting list at a Brazilian


37. Maria Benito De Valle, Monira Rahman, Björn Lindkvist, Einar Björnsson, Roger Chapman, Andevangelos Kalaitzakis, Factors That Reduce Health-Related Quality of Life in Patients With Primary Sclerosing Cholangitis, Clinical Gastroenterology And Hepatology 2012;10:769 –775


41. Ian M. Gralnek, Ron D. Hays, Angelique Zeringue, Francisco Durazo, Steven B. Han, Sammy Saab, Roger Bolus, And Brennan M. R. Spiege, a review of quality of life instruments used in liver transplantation ,Clinical Gastroenterology And Hepatology 2009;7:793–799

42. Gerald S. Lipshutz, Jonathan Hiatt, R. Mark Ghobrial, Douglas G. Farmer, Monica M. Martinez, BA; Hasan Yersiz, Jeffrey Gornbein, Ronald W. Busuttil, the study on Outcome of Liver Transplantation in Septuagenarians, Arch Surg. 2007;142(8):775-784


45. Talbot L A. Principles and Practice of nursing research: Missouri Mosby yearbook; 1995

46. https://www.google.com/search?q=shodhganga.inflibnet&oq=shodhganga.i&aqs=chrome.1.69i57j0l7.25609j0j9&sourceid=chrome&ie=UTF-8


50. https://courses.lumenlearning.com/suny-hccc-research-methods/chapter/chapter-7-scale-reliability-and-validity/


