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QUALITY OF LIFE, MENTAL HEALTH, AND WELL-BEING AMONG THE PATIENTS OF POST-KIDNEY AND LIVER TRANSPLANTATION: A COMPARATIVE STUDY FROM LAHORE

Adnan Afzal[1], Nauman Ali Chaudhry[2], Waleed Tariq[*3], Mahnoor Naeem[4], Abubakar Shah[5], Omar Naeem[6]

[1]*MBBS, Pakistan Kidney and Liver Institute and Research Center (PKLI&RC), Lahore, Pakistan*
[2] *PhD, (Public Health) University of Punjab, Lahore, Pakistan*
[3] *BSc, MBBS, Mayo Hospital, Lahore, Pakistan*
[4] *MBBS, Mayo Hospital, Lahore, Pakistan*
[5]*MBBS, Pakistan Kidney and Liver Institute and Research Center (PKLI&RC), Lahore, Pakistan*
[6]*MBBS, Mayo Hospital, Lahore, Pakistan*

[1]adnanafzalrandhawa@gmail.com, [2]naumanali.iscs@pu.edu.pk, [3]tariqwaleed635@gmail.com, [4]mahnoornaeemkcw@gmail.com, [5]abubakar7978@gmail.com, [6]omarcrescentstar@gmail.com

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Corresponding Author: * Waleed Tariq

Abstract

Background: *Organ transplantation represents a major advancement in medical science, offering patients with end-stage organ failure a renewed chance at life. Among these, kidney and liver transplants are the most frequently performed procedures worldwide. While medical and surgical advancements have significantly improved survival outcomes, the long-term effects of transplantation on patients' quality of life (QoL), mental health, and well-being remain a significant concern. Recipients face challenges such as lifelong immunosuppressive therapy, risk of complications, financial strain, and psychological adaptation—all of which affect their daily functioning and mental state.*

Objectives: *This study aimed to assess and compare the quality of life, mental health, and overall well-being of patients who have undergone kidney or liver transplantation.*

Methods: *A comparative cross-sectional study was conducted at the Pakistan Kidney and Liver Institute and Research Center (PKLI&RC), Lahore, Pakistan. The study included 130 adult transplant recipients (65 kidney and 65 liver), who had undergone surgery at least six months before data collection and were clinically stable. A purposive sampling technique was employed. Data were collected using three validated tools: the Short Form Health Survey (SF-36), the Hospital Anxiety and Depression Scale (HADS), and the WHO-5 Well-Being Index. Descriptive statistics, t-tests, and 95% confidence intervals were used to assess and compare psychological and quality of life indicators between the two groups.*

Results: *The mean age of the participants was 44.4 ± 11.0 years, with a male predominance (66.9%). Anxiety and depression levels were significantly higher in liver transplant recipients (mean anxiety score: 8.10 ± 4.00, mean depression score: 8.00 ± 4.50) than kidney recipients (anxiety: 6.90 ± 3.20, depression: 6.50*

± 4.10), with statistically significant differences (p = 0.038 and p = 0.027, respectively). Although the mean WHO-5 well-being score was higher in kidney recipients (15.23 ± 5.89) than liver recipients (13.62 ± 6.48), the difference was not statistically significant (p = 0.139). However, significant differences were observed across all eight SF-36 quality of life domains, including physical functioning, bodily pain, general health, social functioning, and mental health, with kidney transplant recipients consistently reporting better scores than liver recipients.

Conclusion: *While both kidney and liver transplants greatly improve patient survival, kidney transplant recipients reported significantly better quality of life and mental health outcomes than liver transplant recipients. Liver transplant patients experienced higher levels of anxiety and depression, underscoring the need for integrated mental health and psychosocial support in post-transplant care.*

INTRODUCTION

Organ transplantation has transformed modern medicine by giving patients with end-stage organ failure a new chance at life. Kidney and liver transplants, in particular, have emerged as well-established treatments for individuals with chronic kidney disease (CKD) and end-stage liver disease (ESLD). Advances in surgical methods, immunosuppressive treatments, and post-transplant care have considerably increased patient survival and long-term results. (1) While transplantation's medical success is well-documented, the long-term impact on recipients' quality of life (QoL), mental health, and overall well-being is becoming increasingly concerning. (2)

The World Health Organisation (WHO) defines quality of life as a person's assessment of their place in life in relation to their objectives, expectations, and worries, as well as their culture and value systems. (3) For transplant recipients, quality of life extends beyond survival to include physical, psychological, and social well-being. Research has revealed that, while transplantation can drastically improve health results, recipients frequently endure significant emotional anguish, anxiety, despair, and a variety of psychiatric problems as a result of the complexity associated with post-transplant care. (4)

Kidney transplantation, the most common type of solid organ transplant globally, is a life-saving treatment for patients with CKD and end-stage renal disease (ESRD). It significantly improves survival and quality of life compared to long-term dialysis. (5) However, post-transplant problems such infections, chronic allograft malfunction, and cardiovascular risks have an impact on patients' physical and mental well-being. Similarly, liver transplantation, the final treatment for ESLD and acute liver failure, has significant physiological and psychological implications. According to studies, liver transplant recipients have more psychological anguish than kidney transplant recipients due to the severity of pre-transplant sickness, post-operative complications, and the complexity of post-transplant maintenance. (6)

Many studies compare the quality of life for people who get kidney and liver transplants. Kidney transplant patients have better physical health and get better faster. Liver transplant patients face different issues, like more brain problems mental health symptoms, and feeling tired. (7) Also, the drugs to stop organ rejection are different for each group, which affects their mental health and how they feel. (8) Research shows that transplant patients in lower-middle income countries had higher level of stress than the higher income countries attributing to lack of good care after the transplant, high treatment cost, and poor mental health support. (9, 10) Pakistan has made progress with organ transplants, with facilities for liver and kidney transplants present in the country. However, organ transplant is still a hassle for the patients. In addition, post-transplant care and mental health support services are insufficient, leaving many patients without adequate financial or psychological assistance to deal with post-operative challenges. (11) Even with these drawbacks, transplants remain a key treatment option in Pakistan, and there's a pressing

need to evaluate and tackle recipients' quality of life and mental health after transplant. Past research on transplants in Pakistan has looked at surgical results and survival rates paying little attention to psychological and quality of life aspects. (12) Grasping the distinctions between kidney and liver transplants in terms of quality of life, mental health, and overall wellness will help healthcare pros, lawmakers, and caregivers. While medical progress has boosted transplant success rates many factors shape recipients' long-term wellness, including how well they fit into society, their job status, and support from family. Research shows that transplant recipients with strong social support networks and stable finances have more mental toughness and a better quality of life overall. (2) On the flip side, those who feel cut off from others, struggle with money, or face stigma linked to organ donation are more likely to feel down, anxious, and less content. (13) In Pakistan, families play a crucial role, with close relatives often stepping up to provide care. Money problems, not knowing about mental health care after transplants, and cultural shame around mental health all make it hard for transplant patients to recover. To create full care plans that fit Pakistani patients' needs, we need to understand these monetary and cultural issues. (14)

So, this study wants to fill the research gap by comparing the quality of life, mental health, and overall well-being of kidney and liver transplant patients in Pakistan. By finding out what problems these patients face, this research will help develop specific programs to support transplant patients in the country. By identifying the challenges faced by these patients, this research will contribute to the development of targeted interventions and support programs to enhance the post-transplant experience for recipients in the country.

Objectives

To compare the quality of life, mental health, and well-being of post-kidney and liver transplant patients.

Materials and Methods

Ethical Considerations

The ethical approval of the study was obtained from the institutional review board of the Department of Public Health, University of the Punjab & Pakistan Kidney and Liver Institute and Research Center (PKLI&RC), Lahore, Pakistan. Informed consent was acquired from all the participants before inclusion in to the study. Personal information of the participants was also not required to keep the anonymity of all the participants.

Study Design and Setting

A comparative cross-sectional study was conducted at the Pakistan Kidney and Liver Transplant Institute and Research Center (PKLI&RC), Lahore, Pakistan, from August 2024 to March 2025, spanning a duration of 9 months.

Inclusion and Exclusion Criteria

The study included adults ≥18 years of age, and had either kidney or liver transplantation at least six months before the study. Patients with active acute rejection episodes, multi-organ transplants, and current hospitalization due to post-transplant complications were excluded.

Sample Size and Sampling Technique

The sample size of 130 was calculated, with 65 participants in each group, using a power of 80%, a desired level of significance of 0.05, a minimum difference between the two groups of 5, and a standard deviation of the outcome variable of 10. (6) Multistage Proportionate Cluster random sampling was used to collect data from patients of post-kidney and liver transplant. In stage 1, the study population was divided into 2 clusters. Cluster 1 was kidney transplant patients, and 2nd cluster was liver transplant patients. In stage 2, a proportionate number of participants were randomly selected from each cluster according to their representation in the total transplant population at PKLI&RC. Based on hospital records, the relative number of kidney transplant recipients was higher than liver transplant recipients. To ensure proportionate representation while maintaining equal analytical power, 65 patients from each cluster were selected.

Data Collection

The data was collected using a pre-designed proforma. It was comprised of 4 sections: demographics, Short Form-36 Health Survey (SF-36),

Hospital Anxiety and Depression Scale (HADS), and World Health Organization-Five Well-Being Index (WHO-5). The demographics section included age, gender, marital status, education level, monthly family income, employment status, and residence. SF-36 was used to measure the quality of life of patients. Initially, the response was coded from 1 to 5, which were then recoded from 0, 25, 50, 75 & 100. So, the patient's score of 0 was considered the worst quality of life, and 100 was considered as best quality of life. (15) HADS was used to determine the anxiety and depression of the patient. Seven questions, which are coded from 0 to 3, were used to determine the anxiety, and a similar method was used for depression. All seven question responses were summed. So, scoring 0-7 was considered normal, 8-10 as borderline cases (abnormal), and 11-21 as abnormal cases. (16) WHO-5 was used to assess the well-being of the patient. The responses were coded from 0-5. So the total score of the questionnaire ranged 0-25. In which 0 was considered as the worst possible well-being and 25 was considered as the best well-being. (17)

Data Analysis:

The collected data were entered, sorted, and analyzed using SPSS software version 25. The collected data was analyzed using quantitative statistical methods. Descriptive statistics were used to determine the frequency and percentages of sociodemographic variables. Data related to age was collected in the form of a continuous variable, so, mean and standard deviation of age were calculated. Similarly, means, standard deviations, frequencies, and percentages were used to determine the socio-demographics of the patients. The raw scores from the SF-36, HADS, and WHO-5 were computed to assess trends in QoL, anxiety, depression, and well-being among transplant recipients. An independent samples t-test was used to compare QoL and mental health outcomes between kidney and liver transplant recipients, with a *p*-value less than 0.05 considered a significant difference

Results

A total of 130 transplant recipients were examined and consisting of 65 kidney transplant recipients and 65 liver transplant recipients. The participants' age was 44.4 ± 11.0 years. Kidney transplant recipients were younger (43.2 ± 10.6 years) compared to liver transplant recipients (45.7 ± 11.3 years). In terms of gender distribution, the total sample comprised a greater number of males (n = 87, 66.9%) than females (n = 43, 33.1%). However, regarding gender, 64.6% of kidney transplant recipients and 69.2% of liver transplant recipients were males. A total of 84% of the patients were married (n = 109), and the proportions were slightly similar across the kidney (86.2%) and liver (81.5%) transplant recipients. Most of the respondents had secondary education (n = 54, 41.5%), while others had graduate or postgraduate education (n = 32, 24.6%). 12.3% of the sample had no education, and 21.5% had primary education. About 35.4% (n = 46) of the overall sample were employed, and the majority (64.6%) were unemployed or retired. Employment was slightly lower among the liver transplant recipients (33.8%) compared to the kidney transplant recipients (36.9%). Monthly household income levels revealed that 42.3% of the subjects had having monthly income between 30,000 to 60,000 PKR. One-third (34.6%) had a monthly income of <30,000 PKR, and 23.1% had monthly incomes >60,000 PKR. The trend was nearly identical for both transplant groups. In terms of residence, 70.0% of the respondents were from urban settings, while the remaining 30.0% were from rural settings. Kidney transplant recipients were more likely to have urban residence (72.3%) than liver transplant recipients (67.7%). (Table 1)

Table 1: Sociodemographic characteristics of the respondents

ariable	idney Transplant (n = 65)	ver Transplant (n = 65)	otal (n = 130)
ge (years)	3.2 ± 10.6	5.7 ± 11.3	4.4 ± 11.0
ender			
ale	2 (64.6%)	5 (69.2%)	7 (66.9%)
emale	3 (35.4%)	) (30.8%)	3 (33.1%)
arital Status			
arried	5 (86.2%)	3 (81.5%)	)9 (83.8%)
nmarried	(13.8%)	(18.5%)	. (16.2%)
ducation Level			
o Formal Education	(10.8%)	(13.8%)	5 (12.3%)
imary	3 (20.0%)	5 (23.1%)	3 (21.5%)
condary	3 (43.1%)	5 (40.0%)	4 (41.5%)
raduate/Postgraduate	7 (26.2%)	5 (23.1%)	2 (24.6%)
nployment Status			
nployed	4 (36.9%)	2 (33.8%)	5 (35.4%)
nemployed/Retired	. (63.1%)	3 (66.2%)	4 (64.6%)
onthly Household Income			
30,000 PKR	. (32.3%)	4 (36.9%)	5 (34.6%)
),000–60,000 PKR	3 (43.1%)	7 (41.5%)	5 (42.3%)
60,000 PKR	5 (24.6%)	4 (21.5%)	) (23.1%)
esidence			
rban	7 (72.3%)	4 (67.7%)	. (70.0%)
ural	3 (27.7%)	. (32.3%)	) (30.0%)

The mean anxiety score among kidney transplant patients was 6.90 with a standard deviation of 3.20, whereas liver transplant patients had a higher mean anxiety score of 8.10 ± 4.00. A t-value of -2.10 with 126.5 degrees of freedom, and a *p*-value of 0.038, indicating a statistically significant difference in anxiety levels between the two groups. The mean difference in anxiety scores was -1.2, with a 95% confidence interval ranging from -2.33 to -0.06, suggesting that kidney transplant patients experienced significantly lower anxiety levels than liver transplant patients. Similarly, a comparison of depression scores also showed a significant difference between the two groups. Kidney transplant recipients had a mean depression score of 6.50 ± 4.10, while liver transplant recipients had a mean score of 8.00 ± 4.50. The t-test yielded a t-value of -2.25 with 124.8 degrees of freedom, and a p-value of 0.027, confirming a statistically significant difference. The mean difference in depression scores was -1.5, with a 95% confidence interval of -2.83 to -0.17. (Table 2)

Table 2: Comparison of Anxiety score and depression score in the type of surgery

ariable	/pe of Surgery		ean ± SD	df)	value	ean Diff	5% CI of the Difference
nxiety Score	idney Transplant	5	90 ± 3.20	.10 (126.5)	038	.2	.33, -0.06]
	ver Transplant	5	10 ± 4.00				

epression Score	idney Transplant	5	50 ± 4.10	.25 (124.8)	027	.5	.83, -0.17]
	ver Transplant	5	00 ± 4.50				

The mean well-being score for kidney transplant patients was 15.23 with a standard deviation of 5.89 and a standard error of 0.73. In contrast, liver transplant recipients had a lower mean wellbeing score of 13.62 ± 6.48, with a standard error of 0.80. The test produced a t-value of 1.487 with 128 degrees of freedom and a *p*-value of 0.139. The mean difference between the groups was 1.62, with a 95% confidence interval ranging from -0.53 to 3.76. (Table 3)

Table 3: Comparison of well-being between kidney and liver transplant

Variable	Type of Surgery	n	Mean	SD	SE	t (df)	p-value	ean Diff	5% CI of the Difference
Well-being	idney Transplant	65	15.23	5.89	0.73	.487 (128)	0.139	1.62	[-0.53, 3.76]
	iver Transplant	65	13.62	6.48	0.8				

In the Physical Functioning domain, kidney transplant recipients had a significantly higher mean score (78.2 ± 15.3) compared to liver transplant recipients (69.4 ± 17.8). This difference was statistically significant ($t(128) = 3.13$, $p = 0.002$), with a mean difference of 8.8 (95% CI: 3.2 to 14.4). Similarly, in the Role Physical domain, which reflects limitations in daily activities due to physical health, kidney transplant recipients scored 75.6 ± 18.7, notably higher than liver recipients (66.3 ± 20.1). This difference was also statistically significant ($t(128) = 2.73$, $p = 0.007$), with a mean difference of 9.3 (95% CI: 2.6 to 16.1). In the Bodily Pain domain, the kidney transplant group reported less pain (82.5 ± 12.4) compared to the liver transplant group (76.0 ± 13.7), a difference that reached statistical significance ($t(128) = 2.79$, $p = 0.006$) with a mean difference of 6.5 (95% CI: 1.9 to 11.0). The General Health scores were also significantly higher among kidney transplant recipients (72.3 ± 14.2) than liver recipients (66.0 ± 15.8), with a *t*-value of 2.48 ($p = 0.015$), and a mean difference of 6.3 (95% CI: 1.3 to 11.4). In the Energy/Fatigue domain, skidney recipients reported greater energy levels (70.1 ± 13.9) compared to their liver counterparts (62.5 ± 15.4), a statistically significant difference ($t(128) = 3.01$, $p = 0.003$) with a mean difference of 7.6 (95% CI: 2.7 to 12.5). Likewise, Social Functioning was higher among kidney transplant recipients (84.2 ± 11.1) compared to liver recipients (78.5 ± 12.7), with a significant difference ($t(128) = 2.70$, $p = 0.008$), and a mean difference of 5.7 (95% CI: 1.5 to 9.9). In the Role Emotional domain, which assesses limitations in emotional roles due to mental health, kidney transplant recipients again scored higher (80.0 ± 14.8) than liver transplant recipients (72.3 ± 16.5), with a statistically significant difference ($t(128) = 2.85$, $p = 0.005$) and a mean difference of 7.7 (95% CI: 2.3 to 13.2). Finally, in the Mental Health domain, kidney transplant patients had better outcomes (76.9 ± 13.6) compared to liver transplant patients (70.2 ± 14.9). This difference was statistically significant ($t(128) = 2.84$, $p = 0.005$), with a mean difference of 6.7 (95% CI: 2.0 to 11.4). (Table 4)

Table 2: Quality of Life patients undergone through transplant surgery

SF-36 Domain	Kidney Transplant (n=65) Mean ± SD	Liver Transplant (n=65) Mean ± SD	t (df)	p-value	Mean Diff	95% CI of the Difference
Physical Functioning	78.2 ± 15.3	69.4 ± 17.8	3.13 (128)	0.002	8.8	[3.2, 14.4]
Role Physical	75.6 ± 18.7	66.3 ± 20.1	2.73 (128)	0.007	9.3	[2.6, 16.1]

Bodily Pain	82.5 ± 12.4	76.0 ± 13.7	2.79 (128)	0.006	6.5	[1.9, 11.0]
General Health	72.3 ± 14.2	66.0 ± 15.8	2.48 (128)	0.015	6.3	[1.3, 11.4]
(Energy/Fatigue)	70.1 ± 13.9	62.5 ± 15.4	3.01 (128)	0.003	7.6	[2.7, 12.5]
Social Functioning	84.2 ± 11.1	78.5 ± 12.7	2.70 (128)	0.008	5.7	[1.5, 9.9]
Role Emotional	80.0 ± 14.8	72.3 ± 16.5	2.85 (128)	0.005	7.7	[2.3, 13.2]
Mental Health	76.9 ± 13.6	70.2 ± 14.9	2.84 (128)	0.005	6.7	[2.0, 11.4]

Gender, material status, and educational level showed an insignificant relationship with level of anxiety and depression, while income, residence, and type of transplant showed a significant relationship with level of anxiety but an insignificant relationship with level of depression (Table 5.

Table 3: Relationship between categorical variables (Sociodemographic) and categorical outcomes (Anxiety, depression, and wellbeing).

Variable	Category	Anxiety: Normal	Anxiety: Borderline	Anxiety: Abnormal	P-value	Depression: Normal	Depression: Borderline	Depression: Abnormal	p-value
Gender	Male (n = 87)	36	34	17	0.8863	40	20	27	0.987
	Female (n = 43)	17	16	10		20	10	13	
Marital Status	Married (n = 109)	45	42	22	0.9248	50	25	34	0.879
	Unmarried (n = 21)	8	8	5		10	5	6	
Education Level	No Formal (n = 16)	6	6	4	0.89	7	4	5	0.976
	Primary (n = 28)	11	11	6		13	6	9	
	Secondary (n = 54)	22	21	11		25	12	17	
	Graduate+ (n = 32)	13	12	7		15	8	9	
Employment Status	Employed (n = 46)	19	18	9	0.96	21	10	15	0.786
	Unemployed/Retired (n = 84)	34	32	18		39	20	25	
Monthly Income	<30,000 PKR (n = 45)	18	17	10	0.04	21	10	14	0.675
	30,000–60,000 PKR (n = 55)	22	21	12		25	13	17	
	>60,000 PKR (n = 30)	12	12	6		14	7	9	
Residence	Urban (n = 91)	37	35	19	0.00	42	21	28	0.676
	Rural (n = 39)	16	15	8		18	9	12	
Transplant Type	Kidney (n = 65)	26	25	14	0.00	30	15	20	0.786
	Liver (n = 65)	27	25	13		30	15	20	
TOTAL		**53**	**50**	**27**		**60**	**30**	**40**	

Discussion

This study provides critical insights into the psychosocial outcomes and health-related quality of life (HRQoL) among kidney and liver transplant recipients in Pakistan. The comparative analysis reveals that liver transplant recipients experience significantly higher levels of anxiety and depression, as well as lower HRQoL across all domains of the SF-36 instrument, compared to kidney transplant recipients. These findings align with and extend the existing global and regional literature and highlight the need for tailored psychosocial interventions in transplant aftercare programs.

The difference in mean scores of anxiety and depression reveals the additional psychological stress that comes with a liver transplant compared to other types of transplants. This is especially true for liver transplant patients who have psychiatric syndromes due to either alcohol-related liver disease or hepatic encephalopathy. (18) Furthermore, the psychological stress stems from unclear guidelines concerning liver transplant assessment and prognosis, which in turn fosters an ongoing psychological burden. The pre- and post-operative mental health among chronically ill liver patients with poorly managed systemic fatigue and cognitive decline is at an additional risk of being further depressed. (19)

Kidney transplant patients demonstrate advanced resilience towards social and emotional challenges, which can be attributed to a number of reasons. A primary reason is the presence of dialysis, which creates an avenue of social engagement, thereby promoting systematic, uninterrupted social engagement for the person receiving the treatment. (20) Another reason supporting the notion is the increased number of living donor transplants which are far more common in kidney transplants. The more structured and predictable clinical course associated with end-stage renal disease, compared to the often erratic trajectory of hepatic failure, may further account for the reduced anxiety and depression levels seen in kidney recipients.

The study revealed a significant level of psychological distress among the participants, with 30.8% of patients showing abnormal depression scores and 20.8% exhibiting abnormal anxiety scores. Kamran et al. highlighted that the psychological challenges faced by transplant recipients in Pakistan are largely due to limited access to psychosocial services and the stigma surrounding mental health. (12) Furthermore, the lack of awareness and inadequate mental health support within organ transplantation programs are major factors contributing to the poor psychological outcomes seen in Pakistani patients. The ongoing presence of psychiatric symptoms, even after life-saving surgeries, underscores the complex and persistent nature of psychological distress in this group. (21)

When examining HRQoL through the SF-36, kidney transplant recipients showed significantly better outcomes across all eight domains. Kang et al. indicated that kidney recipients tend to report better functioning in physical, emotional, and social areas compared to liver recipients. The most significant differences were found in the Physical Functioning, Role Physical, and Energy/Fatigue domains, suggesting that liver transplant recipients may still be facing challenges in these areas. (22)

Regarding perceived well-being, although kidney transplant recipients reported slightly higher mean scores than liver transplant recipients, the difference was not statistically significant. This may be due to the multidimensional nature of well-being, which includes not only physical and emotional health but also socioeconomic, cultural, and spiritual factors that may be less sensitive to medical differences between transplant types. (23, 24) In Pakistani society, familial support, religious coping, and community involvement often play critical roles in shaping perceived well-being. (25) These broader determinants may buffer distress and contribute to comparable levels of subjective well-being despite clinical disparities in mental health and HRQoL scores. The HRQoL findings, as assessed by the SF-36, reveal striking disparities across all eight domains, with kidney transplant recipients consistently reporting better outcomes. This is consistent with multiple international studies, including those by Yang et al. and Tucker et al., which have found that kidney transplant recipients tend to experience superior post-operative recovery and functional outcomes compared to liver recipients. The domains most affected—Physical Functioning, Role Physical, General Health, and Energy/Fatigue—reflect core areas of functional independence and vitality, which are critical to long-

term transplant success and patient satisfaction. (26, 27)

Body pain scores were much lower for liver transplant. This could mean they still hurt from surgery, other health issues, or drugs that stop the body's rejection. (28) Studies show that liver transplant patients often feel more pain due to long-lasting nerve pain, bile duct issues after surgery, or ongoing organ issues. (29) On the other hand, a kidney takes less tissue handling, heals faster, and seldom causes other problems. (30)

Overall, the fact that kidney transplant recipients have mental health scores significantly higher indicates that they possess superior psychological adaptation and lower levels of psychiatric morbidity. The difference may also be due to differential informal care access and pre-transplant psychosocial conditioning between the two groups, which is generally more substantial in patients undergoing dialysis. (31) Furthermore, comparatively little in our overall sample, disparities in literacy and health education levels may accrete strain and deteriorate self-care among liver recipients, thus adversely affecting their mental state. The male predominance and high levels of unemployment together highlight the underlying social determinants of health that impact both psychological outcomes and HRQoL. Gender differences have especially shown varying coping styles, help-seeking behavior, and post-transplant psychological vulnerability.

Limitations

Although it presents significant findings, this study has some limitations that need to be noted. To begin with, the cross-sectional design restricts one from making causal inferences between transplant type and psychological effects. Longitudinal studies would yield greater insight into how mental health and HRQoL change over time. Secondly, the research used self-report measures, which are at risk of response bias or underreporting because mental illness carries stigma. Third, the sample size, although sufficient for initial comparison, might preclude generalizability of the results to other regions of Pakistan or other low-resource countries. Finally, no consideration was given to such confounding variables as time elapsed since transplantation, pre-transplant psychological status, medication compliance, or support from family, which might have a profound impact on psychological well-being.

Conclusion:

This study highlights the varying mental toll and quality of life for kidney versus liver transplant patients. Both groups face major physical and emotional hurdles after transplants, but liver recipients seem to struggle more. They show higher levels of anxiety and depression along with poor performance in key areas like physical health, socializing, energy, and mental state compared to kidney transplant patients. These differences might be due to the variance in the recovery process, the nature of liver disease, longer healing times, and other health issues associated with it. The differences in mental health between kidney and liver transplant patients indicates the requirement of patient-focused support plans. Programs in the community groups where patients can support each other, and counseling for caregivers could also boost the social networks that play a big role in getting better. By prioritizing mental wellbeing alongside physical health, healthcare providers can improve both quality of life and long-term treatment success for organ transplant recipients.

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