



Original Article

Nurses' Performance Regarding Care of Patients Undergone Liver Transplantation: A Comparative Cross-Sectional Study

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ABSTRACT

Viral hepatitis is the seventh largest cause of mortality, with the hepatitis C virus accounting for over half of all viral hepatitis deaths. The nurse plays a vital role in any team of health care professionals concerned within the care of patients. To determine the nurses' performance regarding care of patients undergone liver transplant. **Methods:** A comparative cross-sectional study was conducted at Liver transplant surgery unit, Pakistan Kidney and Liver institute and research center and Bahria International hospital Lahore. Total 86 nurses were enrolled. Data were collected on a predesigned nurse's performance questionnaire regarding post liver transplant care and socio demographic characteristics for nurses including age, gender, qualification, duty shift and work experience were noted. Statistical analysis was performed by using the Statistical Package for Social Sciences (SPSS) version 24.0. The frequencies, percentages were calculated for qualitative variables and Mean \pm SD were calculated for quantitative variables. **Results:** The mean age of nurses in group A as 29.32 \pm 5.62 and in group B as 29.35 \pm 5.45. Out of 43 participants 9(20.9%) were males whereas 34(79.1%) were females in group A and in group B there were 14(32.6%) were males and 29(67.4%) were females. The mean ranks in group A was 22.66 and in group B it was observed as 21.31. Insignificant difference has been observed in both groups (p-value 0.720). **Conclusion:** In this study, it was concluded that the performance of nurses in terms of patient care is insufficient after liver transplantation.

INTRODUCTION

End-stage liver disease (ESLD) is a serious health condition, and the number of people who have it keeps growing all the time [1]. Viral hepatitis is the seventh largest cause of mortality globally, with the hepatitis C virus accounting for over half of all viral hepatitis deaths [2]. Hepatitis C specifically affects the liver causing chronic hepatitis and hepatocellular carcinoma (HCC), resulting in high morbidity and mortality globally. According to an estimation, almost 200 million people are thought to be infected with HCV around the globe [3]. Patients who have acute or chronic end-stage liver impairment can benefit from liver transplantation. Although it is not seen as a permanent solution, it can offer relief from a liver

malfunction concern that is now present [4]. However, it results in a chronic condition and need for ongoing, specialized treatment to protect the transplanted organ [5]. Human liver transplantation is a curative treatment for end-stage liver disease. The enormous advancements in the field of liver transplantation have brought hope to many who are in desperate need of help. The ability to predict the survival is a crucial aspect in determining whether or not a liver transplant will be successful [6]. The surgical outcomes in LT are influenced by a number of factors, including the severity of the disease, the availability of donor organs, the use of immunosuppressive drugs, and the capacity to predict survival. In LT, the postoperative

surgical outcomes are influenced by a variety of factors such as the severity of the disease, the availability of donor organs, the use of immunosuppressive drugs, and the prediction of survival. Early postoperative monitoring and maintenance of cardiorespiratory function, frequent assessment of allograft performance, rapid diagnosis of unanticipated problems, and prompt treatment of extrahepatic organ system dysfunction are all required for patients with LT [7]. The nurse plays a vital role in any team of health care professionals concerned within the care of patients [8]. The main role of professional nurse is the assessment, implementation, continuous monitoring and evaluation of postoperative progress patients after liver transplantation [9, 10]. Nurse education comprises of both practical and theoretical training delivered to nurses in order to prepare them for their roles as medical care providers [11]. Nursing employees should participate in a lot of training because the needs of patients change and there are new improvements in process [12]. Nurses' education never ends because they are needed to consistently learn new skills and concepts throughout their careers [13]. After the surgery, the patient will stay in the ICU for a few days before being transferred to the transplantation ward, where they will stay for approximately two weeks. Up to their hospital discharge, specialized nurses give patients and their loved ones the proper care and instruction. Direct patient education and the dissemination of knowledge on medications, food, exercise programme preventions, self-assessment, family planning, and medical follow-up are also considered forms of education. So the basic purpose of this study is to determine the nurses' performance regarding care of patients undergone liver transplant.

METHODS

After taking informed consent from the nurses, a comparative cross-sectional study was conducted at Liver transplant surgery unit, Pakistan Kidney and Liver institute and research center and Bahria International hospital Lahore. Total 86 nurses were enrolled. All diploma general and BSN nurses (both gender) aged 20 to 50 years, who were working in the liver transplant surgery department, having at least 1 year experience were enrolled in current study. Data was collected on a predesigned nurses performance questionnaire regarding post liver transplant care and socio demographic characteristics for nurses including age, gender, qualification, duty shift and work experience were noted. Performance questionnaire was a concern to assess nurses' practices regarding the post liver transplant care. The questionnaire has 20 questions. The statements are provided with yes (performed) and no (not performed) options. Each yes answer got a score one, while each no answer got score zero. The nurses who achieved

score > 60% on nurses' performance questionnaire was considered as satisfactory whereas score <60% was considered as unsatisfactory nurses' performance. Statistical analysis was performed by using the Statistical Package for Social Sciences (SPSS) version 24.0. The frequencies, percentages were calculated for qualitative variables and Mean + SD were calculated for quantitative variables. Normality was assessed through Kolmogorov-Smirnov test. Comparison regarding performance of nurses was made through Mann Whitney U test. p-value < 0.05 considered statistically significant.

RESULTS

Table 1 depicts the mean age of nurses in group A as 29.32+5.62 and in group B as 29.35+5.45. Out of 43 participants 9(20.9%) were males whereas 34(79.1%) were females in group A and in group B there were 14(32.6%) were males and 29(67.4%) were females. In group A, there were 21(48.8%) participants were diploma holder, 5(11.6%) had diploma plus specialization and 17(39.5%) were BSN and above whereas in group B; 28(65.1%) participants were diploma holder, 6(14.0%) had diploma plus specialization and 9(20.9%) were BSN and above. Majority of the participants were working in morning shifts 27(62.8%) and remaining 16(37.2%) were working in evening shifts, and, in group B 27(62.8%) had morning shift and remaining 16(37.2%) were working in evening shifts. With regard to work experience, 28(65.1%) had experience of upto 5 years, 13(30.2%) had work experience of 6 to 10 years and remaining 2(4.7%) had experience of more than 10 years while in group B, 35(81.4%) had experience of upto 5 years, 7(16.3%) had work experience of 6 to 10 years and remaining 1(2.3%) had experience of more than 10 years

Variables	PKLI n (%) or mean + sd	Bahria Hospital n (%) or mean + sd
Age	29.32+5.62	29.35+5.45
Variables		
Male	9 (20.9%)	14 (32.6%)
Female	34 (79.1%)	29 (67.4%)
Education		
Diploma Holder	21 (48.8%)	28 (65.1%)
Diploma plus Specialization	5 (11.6%)	6 (14.0%)
BSN and above	17 (39.5%)	9 (20.9%)
Duty Shift		
Morning	27 (62.8%)	27 (62.8%)
Evening	16 (37.2%)	16 (37.2%)
Experience		
1 to 5 years	28 (65.1%)	35 (81.4%)
6 to 10 years	13 (30.2%)	7 (16.3%)
more than 10 years	2 (4.7%)	1 (2.3%)

Table 1: Demographic characteristics of nurses

Table 2 illustrates the performance scores in both groups. The mean ranks in group A was 22.66 and in group B it was

observed as 21.31. Insignificant difference has been observed in both groups (p-value 0.720).

Performance Scores	PKLI (mean ranks)	Bahria Hospital (mean ranks)	U	p-value
	22.66	21.31	216.50	29.35+5.45

Table 2: Comparison of performance scores between PKLI and Bahria hospital

DISCUSSION

According to the results mean age was 29.00±5.34 years in group A and 29.67±5.70 years in group B. In group A, there were 16 (37.2%) males and 27 (62.8%) were females, whereas in group B there were 7 (16.3%) nurses who were male and 36 (83.7%) were females. Most nurses were diploma holders [A=(67.4%) Vs. B=(46.5%)] and have up to 5 years of experience [A= (72.1%) Vs. B= (74.4)]. These findings were compared with a cross sectional study conducting on intensive care unit nurses reported that The average age of the nurses was 45 years old, and 59.1% of them received further training in critical care nursing. The majority of the nurses (51.3%) obtained a diploma and had a mean of 12.56 years of work experience [14]. However, it has been considered that nursing is a feminine profession. The current study also reported that the female's nurses were majority in number among both groups. These findings were in consistent with the study which reported that the majority of nurses were females who work in ICUs [15]. It was also reported in another study that about 90% of nurses around the world were female [16]. In context to this the current study showed that the regarding performance of patient care after liver transplantation nurses have unsatisfactory practices. These findings can relate to a study conducted on nurses to find out the effect of educational program to improve knowledge after renal transplantation. However, this showed that the before the training session nurses have poor practices but after teaching session it has satisfactory positive effect on their prior knowledge of post-operative care. This finding is quite comparable to the London study's findings, which were intended to improve understanding and knowledge of the long-term care of patients receiving kidney transplantation [17]. Moreover, a qusai experimental investigation using an observational study and a nurse knowledge questionnaire was used. The results of this study showed a statistically significant association between total nurses' knowledge and abilities about the evaluation of liver graft function and post-transplant intensive care which demonstrated a positive relationship among knowledge and skills. Additionally, it was demonstrated that after intervention the nurses' understanding and the assessment of liver transplant function in the ICU reaches a satisfactory level [18]. The findings also support the findings that standards and

objectives must be established by each medical organization and profession in order to direct teams and practitioners in providing safe and effective care. Not only must there be standards, but leaders and supervisors must also ensure that their staff members are aware of them and understand them. Employees must also be aware that their performance will be evaluated based on their ability to achieve the established criteria for providing high-quality care [19]. At the pre-educational guideline implementation phase, more than half of the investigated nurses had an unacceptable score for their practise regarding total infection control precautions. This may be because there were issues with work overload and a lack of training opportunities for nursing staff during the postoperative period, despite the satisfactory score improved after the implementation and follow-up phases of educational guidelines. This outcome is consistent with De Oliveira Serra's (2015) findings that nursing care is not adequately provided, there are insufficient resources, and nurses find it challenging to use nursing care systematization postoperatively [20].

CONCLUSIONS

In this study, it was concluded that the performance of nurses in terms of patient care is insufficient after liver transplantation. Therefore, educational programme focusing on the importance of patient care should be provided so that the aspect of treatments and social life of patients get improved.

Conflicts of Interest

The authors declare no conflict of interest

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REFERENCES

- [1] Mazzarelli C, Prentice WM, Heneghan MA, Belli LS, Agarwal K, Cannon MD. Palliative care in end-stage liver disease: time to do better?. *Liver Transplantation*. 2018 Jul; 24(7): 961-8. doi: [10.1002/lt.25193](https://doi.org/10.1002/lt.25193)
- [2] Xu F and Guo Y. Communicable diseases and the genome revolution. *The Lancet Global Health*. 2018 Jul; 6(7): e720-1. doi: [10.1016/S2214-109X\(18\)30261-4](https://doi.org/10.1016/S2214-109X(18)30261-4)
- [3] Haqqi A, Munir R, Khalid M, Khurram M, Zaid M, Ali M, et al. Prevalence of hepatitis C virus genotypes in Pakistan: current scenario and review of literature. *Viral immunology*. 2019 Nov; 32(9): 402-13. doi: [10.1089/vim.2019.0058](https://doi.org/10.1089/vim.2019.0058)
- [4] Santopaolo F, Lenci I, Milana M, Manzia TM, Baiocchi L. Liver transplantation for hepatocellular

- carcinoma: Where do we stand?. *World journal of gastroenterology*. 2019 Jun; 25(21): 2591-2602. doi: [10.3748/wjg.v25.i21.2591](https://doi.org/10.3748/wjg.v25.i21.2591)
- [5] Oliveira RA, Turrini RN, Poveda VD. Adherence to immunosuppressive therapy following liver transplantation: an integrative review. *Revista latino-americana de enfermagem*. 2016 Aug; 24: e2778. doi: [10.1590/1518-8345.1072.2778](https://doi.org/10.1590/1518-8345.1072.2778)
- [6] Line PD and Dueland S. Liver transplantation for secondary liver tumours: The difficult balance between survival and recurrence. *Journal of Hepatology*. 2020 Dec; 73(6): 1557-62. doi: [10.1016/j.jhep.2020.08.015](https://doi.org/10.1016/j.jhep.2020.08.015)
- [7] Karaly SF and Elfetoh EE. Effect of an educational guideline on nurses' performance caring for patients post liver transplantation. *Egyptian Nursing Journal*. 2019 Sep; 16(3): 115-27.
- [8] Chaney AJ and Yataco ML. The emerging role of nurse practitioners and physician assistants in liver transplantation. *Liver Transplantation*. 2019 Jul; 25(7): 1105-9. doi: [10.1002/lt.25474](https://doi.org/10.1002/lt.25474)
- [9] Hoseini SM, Manzari ZA, Khaleghi I. ICU nurses' knowledge, attitude, and practice towards their role in the organ donation process from brain-dead patients and factors influencing it in Iran. *International journal of organ transplantation medicine*. 2015; 6(3): 105-13.
- [10] Nargiso S, Tristan V, Ramos L, Muriel JA, Sachs RE. The evolving role of advanced practice providers in transplantation: a literature review. *Current Opinion in Organ Transplantation*. 2021 Oct; 26(5): 482-7. doi: [10.1097/MOT.0000000000000905](https://doi.org/10.1097/MOT.0000000000000905)
- [11] Younis HM, Mohammed GT, Khalil SS. Infection control: effect of nursing teaching protocol on nurses' knowledge and practice regarding kidney transplantation patients. 2018; 7(1): 21-26. doi: [10.14419/ijans.v7i1.8711](https://doi.org/10.14419/ijans.v7i1.8711)
- [12] Mayer J, Selim MA, Mahaffey JJ, Martin A, Hong JC. Assessment of Patient Knowledge of the Role of Advanced Practice Providers in Transplantation Surgical Care: A Single-Center Prospective Study. In *Transplantation Proceedings* 2022 Nov; doi: [10.1016/j.transproceed.2022.10.030](https://doi.org/10.1016/j.transproceed.2022.10.030)
- [13] Ahsan A, Khan AZ, Javed H, Mirza S, Chaudhary SU, Shahzad-ul-Hussan S. Estimation of hepatitis C prevalence in the Punjab province of Pakistan: a retrospective study on general population. *PloS one*. 2019 Apr; 14(4): e0214435. doi: [10.1371/journal.pone.0214435](https://doi.org/10.1371/journal.pone.0214435)
- [14] Ndlovu E, Filmlalter C, Jordaan J, Heyns T. Professional quality of life of nurses in critical care units: Influence of demographic characteristics. *Southern African Journal of Critical Care*. 2022 May; 38(1): 39.
- [15] Wright K. Intergenerational Relations and Gendered Transmissions: Conflicts, Reparations and Solidarities. In *Gender, Migration and the Intergenerational Transfer of Human Wellbeing*. Palgrave Pivot, Cham. 2018 Nov; 91-124. DOI: [10.1007/978-3-030-02526-7_6](https://doi.org/10.1007/978-3-030-02526-7_6)
- [16] Buchan J, and Catton H. COVID-19 and the international supply of nurses. *International council of nurses*. 2020
- [17] Trevitt R, Dunsmore V, Murphy F, Piso L, Perriss C, Englebright B, et al. Pre-And Post-Transplant Care: Nursing Management Of The Renal Transplant Recipient: Part 2. *Journal of renal care*. 2012 Jun; 38(2): 107-14. doi: [10.1111/j.1755-6686.2012.00302.x](https://doi.org/10.1111/j.1755-6686.2012.00302.x)
- [18] Abd Rabo EM, Abdel-Aziz MA, Mohamed KS. Effect of implementing nursing care of patients post liver transplantation on nurses performance. *Assiut Scientific Nursing Journal*. 2021 Jun; 9(25): 174-82. doi: [10.21608/asnj.2021.73400.1169](https://doi.org/10.21608/asnj.2021.73400.1169)
- [19] Mohamed SA and Wafa AM. The effects of an educational program on nurses knowledge and practice related to hepatitis C virus: a pretest and posttest quasi-experimental design. *Australian Journal of Basic and Applied Sciences*. 2011; 5(11): 564-70.
- [20] Silva WD, Oliveira FJ, Serra MA, Rosa CR, Ferreira AG. Factors associated with condom use in people living with HIV/AIDS. *Acta Paulista de Enfermagem*. 2015 Nov; 28: 587-92. doi: [10.1590/1982-0194201500096](https://doi.org/10.1590/1982-0194201500096)