

## IMPACT OF PSYCHOSOCIAL FACTORS ON MEDICATION LEVEL VARIABILITY INDEX AND OUTCOMES IN PEDIATRIC LIVER TRANSPLANT RECIPIENTS

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**Keywords:** Pediatric liver transplant, graft failure, medication nonadherence, transplant psychosocial assessment

**Background:** Caregivers are largely responsible for activities essential to maintaining a functioning graft such as administration of immunosuppressive medications and adherence to medical regimens after pediatric liver transplantation. Therefore, the psychosocial factors of both patients and caregivers have a critical role in transplant outcomes. Appropriate assessment and recognition of these psychosocial determinants' pre-transplantation may allow transplant teams to better define the needs of organ recipients and develop specific countermeasures, which may then contribute towards improving the short and long-term outcomes related to transplant.

**Materials/Methods:** We studied 136 pediatric liver transplant recipients followed at Texas Children's Hospital for up to 4 years after transplantation. Licensed social workers conducted comprehensive pre-transplant assessments on each patient, consisting of 22 psychosocial variables that were thought to impact adherence. These assessments were documented in the electronic medical record and later reviewed during our study period. Nonadherence was determined using medication level variability index which, in our study, was obtained up to 4 years after transplantation. Biopsy-confirmed rejection episodes were assessed in our patients in the first year after liver transplant.

**Results:** Factors significantly associated with nonadherence (defined as MLVI >2) included parental age at assessment and parental education level at liver transplant evaluation, type of insurance, and household income. However multivariable regression showed that no one factor emerged as an independent predictor of MLVI >2 in the first post-transplant year. The number of acute cellular rejection episodes trended higher in nonadherent patients ( $p=0.053$ ), and these patients had a higher number of moderate to severe rejection episodes.

**Conclusions:** There are several patient and familial psychosocial factors that contribute to nonadherence and, in turn, to poor clinical outcomes after transplantation. Assessment of these psychosocial factors in a standardized manner is essential to the success of our pediatric liver transplant recipients.

**Images / Graph / Table**

