

Research Article

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## Emotional Disorders in Pediatric Renal Transplant Recipients: A Comparative Study

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**Introduction:** Kidney transplantation is recognized as the optimal therapy for children with ESRD. We performed this study to compare the children's behavioral problems and their parents' function in pediatric patients with Kidney transplantation in Arak Amir Kabir Hospital.

**Materials and Methods:** To perform this case-control study, we recruited 29 children with renal transplantation and compared them with 29 healthy children aged 5-14 years old. The Child Behavior Checklist (CBCL4/18) was used for the assessment of the children's behavioral problems and Global Assessment of functioning (GAF) was employed for the evaluation of their parents' behaviors.

**Results:** Among 29 patients with RTR, anxiety/depression, somatic complaints, social problems, and attention problem were demonstrated in 65.5%, 55.1%, 51.7%, and 76%, respectively. We found out a significant difference between cases and controls. Delinquent and aggressive behavior was not seen in two groups. As a significant difference, the parents' mean stress and behavior score in case and control groups was 22.4% and 63.1%, respectively.

**Conclusions:** The higher prevalence of behavioral problems in the renal transplant recipients and their parent's functional impairment highlights the importance of early parental intervention for early prevention of future behavioral problems in their siblings.

**Keywords:** Emotional Disturbances; Renal Transplantation, Child.

**Running Title:** Emotional Disorders in Renal Transplant Recipients

### Introduction

Renal pathologies have a significant impact on the affected children's lifestyle, and psychic and physical development. In the past, even if medical cures allowed these children to live longer and have a better life, today both the children and

their families have to face a lot of difficulties due to the kind of pathology [1].

Children and adolescents who are at the final stage of renal disease have special needs that are different from adults', including the need to

achieve normal growth and cognitive development [2]. Kidney transplantation is recognized as the optimal therapy for children with ESRD [3]. By advances in transplant care and treatment modalities and by diligent attention to the pediatric patient's psychosocial, educational, and developmental rehabilitation, social and emotional functioning of the children and their family appears to return to pre-illness levels within a year of successful transplantation [4]. Parental reactions can deeply affect the children's behavioral problems [5]. It is stated that parental stress is escalated in children with a chronic developmental conditions; therefore, their ability to cope and to help the child to cope with this situation is decreased [6]. For example, depressed mothers perceive more behavioral problems in their children [7]. These children have increased levels of internalizing and externalizing problems [8]. The aims of the psychosocial assessment in the kidney transplanted pediatric setting are to determine whether there are signs and symptoms of cognitive, developmental, emotional, behavioral, or social difficulties and to characterize these signs and symptoms sufficiently to determine their appropriate management. As mentioned above, we conducted this study to evaluate the parents' function and children's behavioral problems in pediatric and adolescent patients with renal transplant in Amir Kabir Hospital, Arak, Iran.

### Materials and Methods

To perform this case-control study, we assessed the prevalence of behavioral abnormalities in 29 children aged 6-14 years old and adolescents with RTR after two years of successful transplantation (end-stage renal diseases were secondary to congenital anomalies and dysgenesis of the kidney) that received triple therapy (cyclosporine, prednisolone and mycophenolate mofetil) compared with a control group that included 29 healthy children with the same age, sex, socioeconomic status, level of education, and relationship between parents. The Child Behavior Checklist (CBCL4/18) was used for the assessment of the children's behavior and Global Assessment of Functioning (GAF) was employed for the evaluation of their parent's behaviors [1]. The CBCL is a common tool for assessing emotional and behavioral problems in children. The CBCL is used in a variety of settings such as schools, hospitals, and research centers [2]. The questions are grouped into 8 categories which

focus on different aspects of behavior: 1) social withdrawal (e.g. not wanting to play with friends anymore), 2) somatic complaints (e.g. unexplained stomachaches), 3) anxiety/depression, 4) thought problems, 5) social problems, 6) attention problems, 7) delinquent behavior and 8) aggressive behavior. The CBCL is a paper and pencil test which the test-taker completes independently [9-10]. If there are concerns about the reading level or comprehension, this test can be administered by interviewer [3]. For each question, the test-taker must select the answer that best describes the frequency of the behavior. Additionally, there are several items in this regard that an explanation of the behavior is required. The properties of all versions of the CBCL have been studied to ensure its validity and reliability in assessing children's behaviors and emotions. The Global Assessment of Functioning (GAF) assigns a clinical judgment in a numerical fashion to the individual's overall functioning level [4]. Impairments in psychological, social, and occupational functioning are considered but those impairments that are related to physical or environmental limitations are not included [5]. The scale ranges from 0 (inadequate information) to 100 (superior functioning) [6]. Results were analyzed with SPSS-16 using descriptive statistics for basic information, ANOVA for multivariate factors regarding behavioral problems, and Chi-square for qualitative variables. P-values less than 0.05 were considered significant in our comparisons. We observed the Helsinki Declaration Principles and written consent was obtained from all participants. The participants were free to withdraw from the study at any time during the study.

### Results

Among 29 patients with RTR, 19 cases (65.5%) showed anxiety/depression while 3 participants (10.3%) in the control group had anxiety/depression, denoting a significant difference ( $p=0.011$ ). Moreover, 16 children (55.1%) in the case group and 1 children (3.4%) in the control group had somatic complaints ( $p=0.002$ ). Fifteen children (51.7%) with RTR and 2 children (6.8%) in the control group had social problems which showed a significant difference ( $p=0.006$ ). Twenty children (76%) with RTR and 3 children in the control group (9%) had attention problems which represented a significant difference ( $p=0.003$ ). Delinquent and aggressive behavior was not seen in the two groups. As a

significant difference (0.04), the parents' mean stress and behavior scores in case and control groups was 22.4% and 63.1%, respectively.

### Discussion

In this study, we found a considerable prevalence of attention and social problems, somatic complaints, and anxiety/depression in children and adolescents with RTR; moreover, their parents' functional assessment was impaired, as well. Our result showed attention problem as the most common behavioral problem in the study group. In this regards, Chilcot et al indicated that depressive symptoms were also associated with poor outcomes following kidney transplantation including no adherence to immunosuppressant drugs, graft failure rate, and all-cause mortality. Efforts to detect and treat depression should be a priority if one is to improve quality of life, treatment adherence, and outcomes in transplant recipient patients [4]. Mathet et al estimated the prevalence of depressive disorders in children and adolescents attending primary care and found out that the prevalence of depressive disorders in the adolescent was 5% and major depressive episode was present in 6% of the children, dysthymia in 4% and maladjustment disorder with depressive mood in about 1% [5]. According to a study by Vásquez V, depression after kidney transplantation has been shown to affect health outcomes adversely. Their results underscored the need to assess depressive symptoms like other affective disorders as part of the screening and follow up of renal transplant recipients in Panama [11]. Kovacs et al, reported that kidney transplant recipients have significantly better health-related quality of life compared to dialysis patients. they suggested utilizing multidimensional disease-specific questionnaires to allow better understanding of treatment, disease and patient-related factors that could affect the quality of life in patients with chronic diseases [3]. Novak M, concluded that depressive symptoms could be an independent predictor of mortality in kidney transplanted recipients [12].

### Conclusions

In our study, we found a considerable prevalence of attention and social problems, somatic complaints, and anxiety/depression in children and adolescents with RTR; moreover, their parents' functional assessment was impaired, as

well. According to our results, we recommend early parents intervention for early treatment of the condition and subsequent prevention of future behavioral problems in their siblings.

### Conflict of Interest

None declared

### Financial Support

None declared

### References

1. Yousefichaijan P, Salehi B, Rafiei M, Firouzifar MR, Mousavinejad SA. Parents function and behavioral disorders in children with/ without diurnal voiding dysfunction: A comparative study. *ZJRMS*, 2013; 15.
2. Yousefichaijan P, Soltani P, Haghverdi F, et al. Parents function and behavioral disorders in children with and without renal transplant recipient's: A comparative study. *Experimental and clinical transplantation* 2014;12 supplement 2:180.
3. Kovacs AZ, Molnar MZ, Szeifert L, et al. Sleep disorders, depressive symptoms and health-related quality of life: a cross-sectional comparison between kidney transplant recipients and waitlisted patients on maintenance dialysis. *Nephrol Dial Transplant*. 2011; 26(3):1058-65.
4. Chilcot J, Spencer BW, Maple H, Mamode N. Depression and kidney transplantation. *Transplantation* 2014;15; 97(7):717-20.
5. Mathet F1, Martin-Guehl C, Maurice-Tison S, Bouvard MP. Prevalence of depressive disorders in children and adolescents attending primary care. *A survey with the Aquitaine Sentinelle Network. Encephale*. 2003; 29(5):391-400.
6. Van Hoebeke E, Hoebeke P, Braet C, Walle JV. An assessment of internalizing problems in children with enuresis. *J Urol* 2004; 171(2-6) 2580-3.
7. Kodman -Jones C, Hawkins L, Schulman SL. Behavioral characteristics of children with daytime wetting. *J Urol* 2001; 166(6): 2392-95.
8. Von Gontard A, Lettgen B, Olbing H, et al. Behavioral problem in children with urge incontinency and voiding postponement: A comparison of a pediatric and children psychiatric sample. *Br J Urol* 1998; 81 suppl 3: 100-6.
9. Joinson C, Heron J, Emond A, Bulter R. Psychological problems in children with bedwetting and combined wetting : A UK population-based study. *J Pediatr Psychology* 2007; 32 (5):605-16.
10. De Bruyne E , Van Hoecke E , Van Gompel K , et al .Problem behavior , parental stress and enuresis. *J Urol* 2009;182 (4):2915-20.
11. Vásquez V, Novarro N, Valdés RA, Britton GB. Factors associated to depression in renal transplant recipients in Panama. *Indian J Psychiatry* 2013; 55(3):273-8.
12. Novak M, Molnar MZ, Szeifert L, et al. Depressive symptoms and mortality in patients after kidney transplantation: a prospective prevalent cohort study. *Psychosom Med* 2010; 72(6):527-34.