

**Summary of dissertation thesis:
Organization of the long-term medical outpatient care of patients
after kidney transplantation**

Kidney transplantation has become the treatment of choice for patients with end-stage kidney disease. This method prolongs patients' life, improves its quality and is also less expensive than dialysis therapy. The number of kidney transplantations worldwide has increased significantly in recent decades. The long-term outcomes of transplantation also improved. This is most likely the result of development in medicine, the introduction of new immunosuppressive drugs, and an overall improvement in health care. One of the significant problems of long-term post-transplant care is the multimorbidity in patients with end-stage kidney disease, that may require appropriate organization of healthcare. The better patient and graft survival in Europe than in the USA are probably due to the differences in organization of post-transplant care, as immunosuppressive treatment and surgical techniques are similar. Therefore, factors are being sought that could improve the organization of post-transplant care and improve treatment results.

The aim of our research was to analyse the organization of medical care in one of the largest Polish transplant centers and to assess the impact of its selected elements on the long-term outcomes.

The first study was a retrospective analysis of the organizational factors of care for kidney transplant recipients over the 5-year period: 2010-2014. The following factors were assessed: changes in the number of patients and the number and frequency of outpatient visits in subsequent years, the reasons for the loss of patients to follow-up, and changes in the financing of treatment after transplantation by the National Health Fund. The 5-year analysis showed a 31% increase in the number of kidney transplant recipients from 1905 to 2395. In the same period, total outpatient specialist care expenditure increased, but to a lesser extent - by 11% per patient. Such an increase in the population size, combined with changes in the financing of outpatient care, reduced the average annual number of specialist transplant visits from 6 to 4.6. In the analysed period, there was also a tendency

to reduce the number of patients who were lost to follow-up. The main reason was that patients changed the transplant center.

The second study was to assess the impact of selected organizational factors on 5-year treatment results, including those identified in the first study. The retrospective analysis included 438 patients after kidney transplantation in the years 2005-2012.

It was found that the sex of the kidney recipient, allocation to the surgical center, change in the method of immunosuppressive drugs distribution in 2008, reduction of the medical appointments from 9 to 6 per year, and distance from the place of residence to the transplant center do not significantly affect the survival of the patient and the transplanted kidney. However, the number and type of comorbidities were significantly related to the patients' survival. The survival rates of patients diagnosed with diabetes before transplantation, cardiovascular diseases and cancer were statistically significantly lower than in other recipients (77, 68 and 60%, respectively). These diseases also likely contributed to the prolongation of the first hospitalization after transplantation, which was significantly related to the patient survival rate. 52% of patients completed the 5-year follow-up. Of the remaining 48%: 7% of patients died, 12.3% lost the graft and were referred for dialysis, 21.7% transferred to other transplant centers, and 7.3% had unexplained reason of the loss to follow-up. Interestingly, as many as 41% of kidney recipients did not have an established etiology of their renal failure.

In addition to the above-mentioned studies published as original papers, the doctoral dissertation includes a review of publications summarising factors that may affect long-term outcomes of kidney transplantation. It included also our original results.

To sum up, the results of our research have shown that the major organizational challenges of long-term post-transplant care are: the growing number of patients, extension of the duration of care, and multimorbidity of present kidney recipients. The organization of medical care in transplant centers should therefore provide access to multidisciplinary transplant teams and a referral system to other specialists. The improvement of nephrological diagnosis before transplantation may also affect the results of treatment after transplantation. We also identified the need for changes in legal regulations that could improve access to up-to-date information about patients.