

ECONOMIC BURDEN OF THE PROGRESSION OF CHRONIC KIDNEY DISEASE ESTIMATED THROUGH ADMINISTRATIVE DATABASE ANALYSIS

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INTRODUCTION AND AIMS

Chronic kidney disease (CKD) worsening is associated to increasing comorbidities; few European studies investigated healthcare costs related to the progression of the pathology and the economic impact of dialysis entrance. Aim of the present study was to evaluate direct healthcare costs in charge to the Lombardy Regional Health Service (RHS) in patients with CKD in the first 12 months after starting dialysis and in the 24 months before it.

METHODS

All subjects resident in Lombardy Region (Italy) recorded in the administrative databases with the first dialysis in the period January 1, 2011- December 31, 2011 were selected and observed for the first 12 months after dialysis and for the 24 months before it. Real direct healthcare costs in charge to RHS were estimated (drugs, hospitalizations (both in-region and outside), diagnostic/therapeutic procedures and outpatient episodes of care). Considering the aim of this analysis, patients with acute kidney injury, died during the first year of dialysis and who stopped dialysis during the follow-up were excluded from this analysis. As data originated from Lombardy regional administrative databases, the perspective of the present analysis was that of RHS and the study was retrospective and observational.

RESULTS

Figure 1: Healthcare costs composition pre and post dialysis entrance (per patient/year)

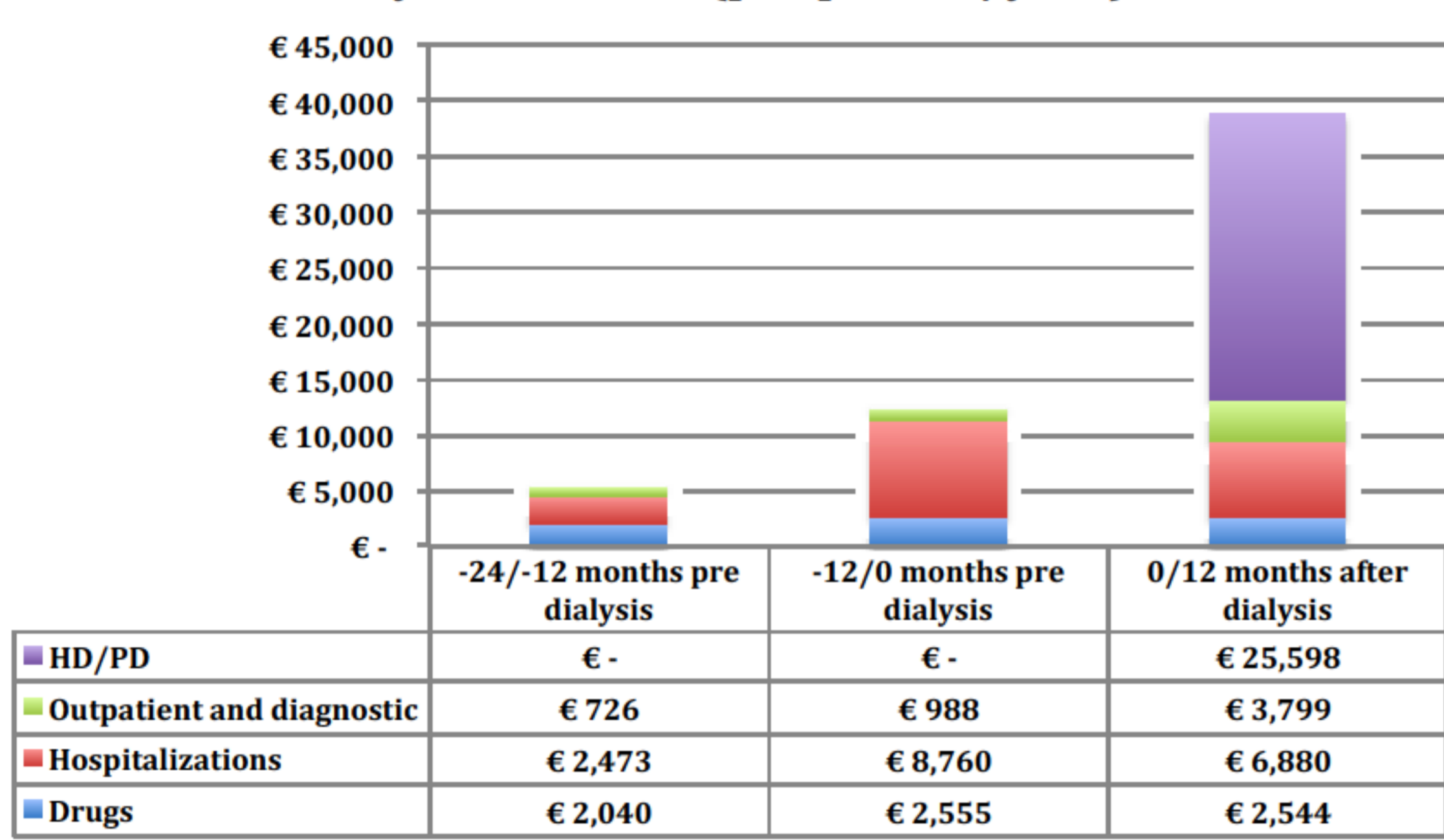
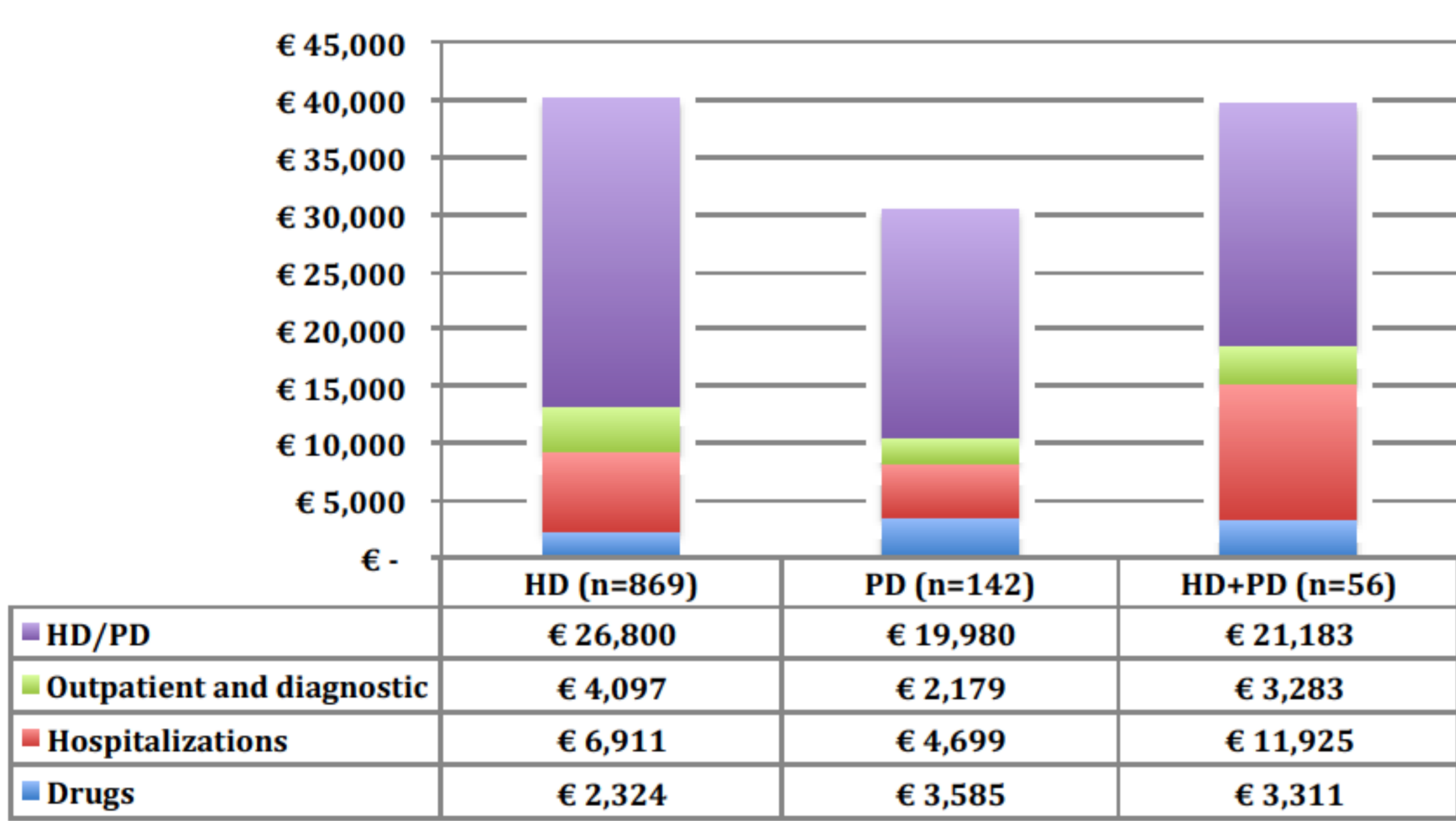


Figure 2: Healthcare costs composition by different dialysis techniques (per patient/year)



Over a population of more than 9,700,000 inhabitants, 1,682 patients incident to dialysis were identified; among them, 365 died during the 12 months following dialysis entrance, 28 received renal transplantation and 223 suspended renal replacement therapy. Finally, 1,067 incident patients (average age 65.2, 34.3% females) meet the pre-specified entry criteria. Of them, in the first 12 month of dialysis, the 82% received only haemodialysis (HD), the 13% only peritoneal dialysis (PD) and the 5% both treatments.

Total yearly cost accounted at 5,239€/patient in the period -24/-12 months before dialysis, at 12,303€/patient in the period -12/0 months before dialysis and at 38,821€/patient in the first year of dialysis. The composition of healthcare costs in the different periods is reported in figure 1.

In the pre-dialysis period, the cost composition varied widely with hospitalizations, which represents the most important cost driver, accounting for the 47% of total healthcare expenditure in the period -24/-12 months and reaching the 71% in the period -12/0 months. Incident patients receiving during the first 12 months after dialysis entrance only HD were associated to an average yearly cost of 40,132€/patient, those receiving only PD were associated to a cost of 30,444€/patient while those receiving both dialysis techniques were associated to a cost of 39,702€. Cost composition for the different dialysis techniques are reported on figure 2.

As expected, HD patients were associated with higher costs than PD patients for all cost components except for drugs.

CONCLUSIONS

Direct healthcare costs associated to the treatment of patients with CKD increased dramatically with the progression of the disease and particularly after starting dialysis treatment highlighting the importance of prevention programs and early diagnosis. The present analysis revealed also that administrative databases analysis could be helpful in decision making for healthcare resource allocation.

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