different techniques, except for the statement that "discrepancies between the different studies published in Spain regarding the comparative costs of PD and HD need more rigorous studies that can shed more light on this topic". We hope that one day the Government will undertake a rigorous and unbiased cost study in order to determine the true cost of dialysis in Spain.

Conflicts of interest

The authors affirm that they have no conflicts of interest related to the content of this article.

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Costs of haemodialysis and peritoneal dialysis outsourcing agreements

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To the Editor,

In response to the letters by Drs Arrieta et al and Minguela et al regarding our article,[1] we wish to thank them for their interest, criticism and input, and add the following clarifications.

Let us assume that haemodialysis (HD) and peritoneal dialysis (PD) are similarly effective, based on data found in the literature and corroborated by a review recently published in our journal.[2] The fact that some studies of patients on PD show higher survival rates, lower hospitalisation rates and a higher apparent probability of undergoing transplantation may be due, as other authors have indicated, to biases related to the characteristics and co-morbidities of patients included in each of the treatment regimens.

Our study clearly shows that the cost of PD is highly dependent on the prescription, and costs are no always lower than in HD. One treatment or the other are considered more efficient depending on the costs of other treatment components (transport for HD, accesses for dialysis and their complications, drugs, emergency care, hospitalisations) which vary between different hospitals. This is why it is important to consider prescriptions in PD and rigorously estimate costs in future studies, which should be publicly financed and include participation by a representative number of medical centres in order to eliminate biases inherent to the "centre effect".

We agree that all costs to nephrology departments incurred by patients being treated in an outsourced centre must be calculated, but we must distinguish between care for issues that are common to both techniques and complications that are directly related to one treatment regimen or the other.

We do not have the data regarding the percentage of patients undergoing more than 3 weekly HD sessions in an outsourced centre. The cited S.E.N. data are based on a record of daily HD sessions,[3] which only included 70% of prevalent patients on HD.[4] Of them, 3.5% underwent 3.5 or 4 weekly sessions and only 1.5% underwent 5 or more sessions. If we extrapolate these data to our study, the results do not change significantly. High-flux membranes and special techniques do not affect HD outsourcing costs in our region because mark-ups associated with them do not enter into the equation; these materials are used according to the provider's best judgement and at the provider's expense.

We do agree that we should have included value-added tax (VAT) when we calculated the difference between the outsourced service costs and the consumable materials. But if we consider this as a reimbursement passed on to the Treasury, we should also count VAT paid for outsourced HD services for the purchase of monitors, materials and other services, and the personal income tax on participants in both outsourced services. With regard to personnel hired by companies providing PD, it is similar to staff providing dialysis material in outsourced HD centres and it is already included in the cost of the service.

In conclusion, we also believe that PD is underused, but we would not say that economic concerns are the best reason for promoting this treatment regimen due to discrepancies listed in our article. Rather, we feel that equal access to all types of dialysis in all nephrology departments should be guaranteed, and that the process of selecting the technique should revolve around the patient's situation, the patient being free to choose an option after being properly informed.

We trust that further multi-centre studies that receive public funding and evaluate all of the factors in play will aid in clarifying the questions that have been raised.

Conflicts of interest

The authors declare potential conflicts of interest:

- **Grants**: the authors receive funds for different research projects from *Instituto Reina Sofía de Investigación* research centre, which belongs to the *Fundación Renal Íñigo Álvarez de Toledo* (Íñigo Álvarez de Toledo Kidney Foundation).
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Paricalcitol for pre-dialysis stages of chronic kidney disease

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To the Editor,

After having read the interesting article by Dr Hervás Sánchez et al on the effectiveness of treatment with paricalcitol in patients with pre-dialysis chronic kidney disease,[1] we would like to take the time to make a few comments.

This study correctly describes the results obtained in controlling hyperparathyroidism and meeting the calcium, phosphorus and parathyroid hormone (PTH) target values recommended by the S.E.N. and KDOQI guidelines.[2] The study was undertaken in normal clinical practice conditions with a retrospective analysis of 92 patients in stage 3 or 4 CKD, and the conclusion was that treatment with paricalcitol was effective for meeting the target values.

However, the data analysis section includes a piece of information that the authors did not comment at all. Levels of 25-OH vitamin D in their population were quite deficient, as occurs frequently in such cohorts.[3] Mean recorded levels were 16.2±8ng/ml and 75% had levels below 21ng/ml.

We would like to issue a reminder that both the KDOQI and S.E.N. 2011 guidelines recommend starting native vitamin D treatment if 25-OH D levels are below 30ng/ml, and they only indicate treatment with active vitamin D if PTH values exceed the established target once 25-OH D levels have been normalised.

This aspect is relevant for two reasons:

1. From a clinical viewpoint, it is important to reach the right plasma levels of 25-OH vitamin D. By doing so, we will achieve better control over hyperparathyroidism, in addition to an array of other effects that we will not list in this brief discussion. This is also true in stage 5 chronic kidney disease,[4] but it is especially relevant in earlier stages, such as those in the study in question. This does not mean that paricalcitol cannot be indicated as treatment for bone and mineral metabolism disorders, but it should not be used as a first-line treatment.

2. The economic impact of this decision is considerable. The estimate cost of treatment with native vitamin D is 20 to 30 Euros per patient per year, while treatment with paricalcitol may be more than 1700 Euros yearly. And in the range of different vitamin D receptor activators, some options are much more economical and have also been shown to be equally effective.[3] This reflection is especially relevant now that the sustainability of our health system is a matter for concern, in fact, many editorial comments have been published on the subject, both in Spain and internationally.[5]

Without a doubt, the most important consideration is benefit to the patient, and to achieve this, we should follow the recommendations in the guidelines.

Conflicts of interest

The authors affirm that they have no conflicts of interest related to the content of this article.

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