The future of peritoneal dialysis

Census

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The 2022 Peritoneal Dialysis Project Group (GPDP) Census reported that PD prevalence in the 183 non-pediatric Italian Centers with complete (PD + HD) data is 14.9%, a percentage which is gradually decreasing despite the modality's acknowledged advantages, calls on the part of regional and national healthcare policies for the domiciliation of care, and documented patient preference for home dialysis when they are actively involved in the choice of modality (>50% of patients prefer PD).

This brief editorial will analyze a number of ways in which action could be taken to increase the use of PD in Italy:

A. **Increase the number of doctors dedicated to PD.** With the new technologies that allow PD to be controlled remotely, we can modify and optimize the prescription almost at will: from number of cycles to single dwell times, from the tonicity of the solutions to full or tidal exchange volumes. With the availability of cyclers, we are able to "tailor" dialysis sessions to patient needs and characteristics. To do this in an optimal way, the experience that can only come from constant application of the technique is required, investing time and resources. Furthermore, doctors dedicated to PD deal not only with setting up dialysis sessions and checking adequacy tests, but also handling periodical outpatient visits, intervening in all the daily issues that are a part of the modality and preparing patients for transplant listing, as well as taking part in the department's usual services (on-call duties, consulting, day hospitals, etc). If the doctor handling PD (and the rest) must also cover hemodialysis or inpatient shifts, opportunities for growth and improvement become increasingly complicated.

B. **Allow specialty trainees in all Specialization Schools to take advantage of adequate training in peritoneal dialysis.** Considering that it is not possible to practise PD in all Schools, referring also to ministerial regulation guidelines, external hubs could be proposed where specialty trainees could broaden their knowledge of the modality. These hubs could become focal points for specialty trainees and enable its use in their daily clinical practice.

C. **Upgrade the number of dedicated nurses**. Without them, a good PD service cannot be guaranteed. The role of nurses is even more valuable in PD than in other sections, as it can guarantee continuity of care for home patients. The facility where I work guarantees the presence of a dedicated PD nurse 24 hours a day, 7 days a week. For PD patients, this represents a guarantee of assistance that contributes to overcoming any insecurities they may have when choosing dialysis modality. As was highlighted by the 2007

Questionnaire, the Centers in which PD nurses also have other responsibilities have modest PD programs. Though on one hand this may be partly understandable, on the other it also constitutes a limitation to the expansion of the program itself.

D. **Have dedicated dieticians and psychologists**. Experts are already available in numerous facilities for the drawing up of nutrition therapies for kidney failure patients, but with patients on dialysis being those greatest at risk of malnutrition the complexity of the subject calls for the presence of a dedicated professional. Furthermore, the implications associated with chronic illness and acceptance of dialysis already make psychological support necessary for patients having to start out on the pre-dialysis process. However, the difficulties encountered in having dedicated dieticians and psychologists available are well-known, and this shortcoming further undermines the possibility of a shared choice of modality with patients.

E. **Allow PD patient caregivers access to all facilities in the event of hospitalization.** We are often faced with the need to transfer hospitalized PD patients to other facilities because the management does not allow caregivers to assist them in the performance of PD. Besides the inconvenience caused to the patients and their family members, this attitude further complicates the difficulties our departments already have in terms of capacity.

F. **Telemedicine.** The possibilities offered today by Telemedicine seem to have been specially designed for a home dialysis program. As well as avoiding transfers and guaranteeing a more accurate follow-up, remote monitoring and videodialysis offer the chance to improve the quality of the care provided, and to expand the population which could benefit from PD. Clearly an organizational upgrading of facilities is required which once more sees nurses playing a central role.

G. **Have personnel trained in performing PD available in nursing homes and rehabilitation facilities.** According to the data of the recent GPDP census, fewer than 5% of patients undergo PD in nursing homes. Cooperation with these facilities could be of help, especially for frailer patients who could avail themselves of PD in a protected environment. The experience of the Nephrologist in Trento who has a number of places reserved for PD patients in local nursing homes should be replicated in other contexts when necessary. The situation becomes even more difficult when tackling the problem of post-hospitalization rehab for patients on PD. With no rehab facilities being available for these patients in many provinces they find themselves forced to switch temporarily to hemodialysis, or – if they are more fortunate – rely on the availability of a caregiver to perform PD every day in their rehab facility. On the other hand, using nursing home personnel for performing PD is not so simple. Indeed, the high turnover rate that often characterizes these facilities means constant training and retraining, which is at times impossible- A possible remedy is today offered by telemedicine, which enables safe repeat training, avoiding stress and the need for travel.

H. **Guarantee full information on all replacement therapies in all Nephrology Centers.** Even if they may not be available in their local Center, for a shared choice of treatment it is essential for patients and family members to be informed of all the therapeutic solutions which are available today, from live-donor transplants to palliative therapies, with patients being referred if necessary to other Centers where a preferred treatment is available. For example: only a few hospitals in Italy have an Operating Unit dedicated to transplants, yet when it is clinically possible all nephrologists inform and prepare patients for a kidney transplant. The same thing should happen for PD: for logistical and organizational reasons, not all Nephrology Operating Units can offer the

modality in house, but – as with transplants – patients must be made aware of the possibility of using it. The 2007 survey (attached to the Census data) highlighted this shortcoming, but the problem remains. Nephrologists must acknowledge that it is ethically wrong not to inform patients of the existence of a valid alternative therapy.

I. **Personnel (social care practitioners, assistants) trained in the performance of assisted dialysis at home.** This is probably the most important point for the future development of PD. As long ago as 2016, among the specific objectives of the Ministry of Health's National Chronicity Plan was to "Customize dialysis therapy, keeping patients at home (residence; nursing home; retirement home; etc.). Furthermore, it said:

"The customization of dialysis therapy must take the characteristics of the patient into account, as below:

- *Self-sufficient patient: high possibility of performing home dialysis.*
- *Elderly, self-sufficient patient living alone who needs to maintain and develop social relationships to avoid isolation: possibility of dialysis at centers for the elderly with auxiliary personnel trained by the local nephrology center.*
- *Partially self-sufficient patient with family member or caregiver: high possibility of performing either peritoneal dialysis or hemodialysis at home. Assisted teledialysis could help deliver home dialysis by providing tools that facilitate correct dialysis practices and minimize the risks of incorrect maneuvers.*
- *Partially self-sufficient patient without caregiver: evaluation of degree of frailty and possibly of assisted home peritoneal dialysis".*

The SARS-CoV-2 pandemic tragically confirmed the importance of home treatment: the difference in mortality between dialysis patients treated at home and in Centers was devastating. Subsequent parliamentary interventions also underlined the need to implement home therapies with the setting up of Community Centers (Case di Comunità, or CdC) and the appointment of district nurses who should intervene in home healthcare. For information, I refer to the definition of "Casa di Comunità", already envisaged under the 2021 PNRR (National Recovery and Resilience Plan) and described in Ministerial Decree no. 77 of 23 May 2022, published in number 144 of the Official Journal: "*The CdC is an easily-identifiable physical neighborhood setting offering access for entering into contact with the healthcare system. It is a facility which is easy to recognize and reach by the local population for access, reception and orientation".* Furthermore: *"Cdc hubs must guarantee:*

a) *On-site doctor 24 hours a day 7 days a week, also through integration of Continuity of Care.*

b) *On-site nursing 12 hours a day 7 days a week (24 hours a day 7 days a week strongly recommended).*

c) *Multidisciplinary team (General Medicine Doctor, Pediatrician, Continuity of Care, Outpatient Specialists, Nurses and other health and social care operatives)".*

This could constitute a formidable engine for driving growth in PD (but also home hemodialysis) in Italy, especially in the frail patients who would benefit most from this form of care.