

A Successful Peritoneal Dialysis Program's Elements

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Abstract

The high incidence of chronic kidney disease (CKD) and the rising number of people with end-stage renal disease (ESRD) globally highlight the importance of providing patients with options for renal-replacement therapy methods. Peritoneal dialysis (PD) has been shown in clinical studies to have many benefits as a home-based dialysis therapy, including longer preservation of residual renal function, lower hemodynamic stress, potential for better patient survival, relatively high quality of life, and greater capacity to serve more ESRD patients because of its lower cost and infrastructure needs.

Keywords: Dialysis • CKD • Renal transplant

Abbreviations: CKD: Chronic kidney disease • ESRD: End-stage Renal Disease • PD: Peritoneal Dialysis

Introduction

Strategies to maximise the use of less expensive PD while also enhancing therapeutic outcomes are required due to the growing rise of the ESRD population in the context of scarce resources. A number of crucial components must be taken into account in order to establish a successful PD programme, including adequate CKD education, reimbursement for the therapy, medical professionals trained in the principles and practises of PD, clinical management, continuous quality improvement, and adequate supportive systems.

Description

CKD education programs

It is crucial for CKD patients to receive predialysis education in order to maximise their usage of a self-care modality like PD. Patients will be better able to grasp PD through education on therapy options, enabling them to choose dialysis modalities with greater knowledge. Dialysis patients still experience high rates of morbidity despite the fact that their mortality rates have declined over the previous few decades. However, investigations have revealed that patients' comprehension of the condition and their knowledge of available therapies are poor [1].

The relevance of predialysis education cannot be overstated given the significance of patient involvement in therapy. Numerous chronic diseases, including diabetes mellitus, have been found to have better clinical results when patients are educated. If CKD advances to ESRD, patients would need lifelong renal replacement treatment, which will only be effective with meticulous self-management on their part. The first step in enhancing clinical outcomes in a PD programme is patient education.

Additionally, to inform predialysis patients and their families about the modality choices for renal replacement therapy, Fresenius Medical Care, North America launched the TOPs national education campaign. As a result of

this instruction, one out of every four patients who attended the TOPs session chose PD as their home therapy. Patients who received TOPs education had a nearly eight-fold greater rate of PD use than non-participants.

There are numerous more advantages to patient education in addition to the rise in the number of patients choose PD as their mode of dialysis. According to studies, CKD education may have a more significant impact on the treatment of dialysis patients than much other therapeutics [2,3]. It was demonstrated by two Canadian randomised controlled clinical studies that predialysis CKD education might postpone the requirement for dialysis and was linked to lower short- and long-term mortality. In a trial of a predialysis psychoeducational intervention in CKD patients, the intervention increased overall survival by 2.25 years and a median of 8.0 months following the start of dialysis therapy. The study involved 20 years of follow-up evaluation.

As a result, taking part in a CKD education programme is linked to greater rates of PD use and better survival. Consequently, predialysis education is essential for developing a fruitful PD programme.

Standard training for staffs

In recent decades, PD sufferers' longevity and quality of life have greatly improved. Despite the benefits this modality offers, it has not received the support it deserves in many nations. Lack of access to qualified doctors and nurses could be a significant factor.

In communities or programmes where the number of PD patients is declining, there is also a further decline in the quantity, quality, and experience of the medical staff, including doctors and nurses. Lack of information of PD not only reduces the likelihood that patients will choose PD therapy but also jeopardises the standard of care for patients who are already receiving it. A productive PD training programme improves the knowledge of doctors and nurses.

In the meantime, PD nurses are significant members of the team. Typically, nurses are required to fulfil a variety of responsibilities, including those of educator, care coordinator, and caregiver. Patients quickly recognise a PD nurse as the go-to person for guidance on all facets of therapy. It is not unexpected that it is hard to operationalize a good PD programme without skilled, experienced, and committed nurses. The PD nurses must possess both theoretical knowledge and practical abilities. The International Society for Peritoneal Dialysis advises that all new nurses in nephrology should get at least 12 weeks of training and experience in a PD unit, including 6 to 8 weeks of orientation, with supervision by a veteran PD nurse and observation of operations, patient education [4].

In the satellite centres, the full-time PD doctors and nurses adhere to a standardised training programme and treatment protocols that cover catheter insertion techniques, managing PD complications, patient education and

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training procedures, gathering and analysing clinical data, and putting into practise a continuous quality improvement process. In Guangdong Province, this programme has considerably raised the number of PD patients and improved medical care [5].

Through the satellite centre model and county hospital training programme, it is anticipated that the increased proficiency of PD nationwide will expand its use, particularly in rural and isolated locations, and that PD penetration will rise in the near future. In order to enlarge the population of ESRD sufferers, this strategy should be replicated in other nations.

Patient management

A significant difficulty is how to guarantee that the PD programme maintains acceptable standards for the calibre of care with a larger penetration rate. One of the biggest PD centres in the world is located at The First Affiliated Hospital of Sun Yat-sen University in Guangzhou. The number of PD patients at the facility has rapidly increased over the previous few years and has exceeded 1,000 since 2017. These patients' survival rates are 94%, 81%, and 64% at 1, 3, and 5 years, respectively. The death-censored technical survival rates are 98%, 91%, and 86 percent, respectively. In 2018, there were 0.14 occurrences of peritonitis per patient-year. It has proven possible to guarantee positive clinical outcomes for diabetic and geriatric patients.

As a result, the centre has established a consistent and useful protocol for catheter insertion by qualified nephrologists. Additionally, nephrologists' placement and removal of PD catheters cut down on needless surgical consultations and enable prompt interventions. Since more than 80% of patients begin dialysis unplanned and have little prior knowledge, the programme has created a well-planned training and retraining programme to encourage patient self-management and independence in a short amount of time. For effectively completing the PD procedure, patients and their assistants—including their spouse and relatives—are both trained and evaluated.

The clinical management, a methodical strategy to uphold and enhance the standard of patient care within a specific health system, can be used to increase the overall effectiveness of the PD programme. A key performance index is a measure of performance that may be used for both intracenter and intercenter comparisons. It represents the calibre of the PD centre. 44 The objectives for key performance indicators should be decided upon in accordance with international standards, taking into account the size of the present centre and the clinical results of a programme. Key performance indicator measurement can be a crucial part of PD practise and is required for ongoing quality improvement (CQI). The creation of suitable CQI programmes could keep an eye on a number of areas, such as the effectiveness of the dialysis, the prevalence of peritonitis, catheter-related issues, anaemia management, calcium and phosphorus control, patient psychosocial status, and satisfaction with the PD therapy. A regular clinical meeting in the morning, PD team meetings once a week and PD symposiums once a month are a few examples of methods to assess, identify, and improve performance [6,7].

The result of PD patients may be influenced by a number of patient factors, including genetic make-up, comorbidities, dietary preferences, way of life, and adherence to therapy, body size, and even peritoneal transport characteristics. Therefore, the success of the programme is also significantly influenced by patient characteristics. It is essential to carry out research to enhance therapy outcomes in order to continuously improve the quality and management of PD [8].

Support systems

It is widely acknowledged that the foundation of a good PD programme is

a team made up of skilled, committed, cooperative, and industrious medical staff. The team now includes access surgeons, dietitians, and social workers in addition to nephrologists and registered PD nurses. The function of nurses and nephrologists has already been covered. Social workers and nutritionists are also essential for a programme to be effective [9].

Dietitians must give patients specific advice regarding their sodium, phosphorus, potassium, energy, and protein intake because dietary management is crucial for PD patients. For patients who are still receiving home therapy, psychosocial evaluations and interventions are very important [3]. Each facility must establish a routine assessment to look into psychosocial issues and organise interventions accordingly. In addition, specialists in infectious diseases, diabetes, and physiotherapy are crucial medical professionals to help a PD programme.

Conclusion

The necessity for measures to maximise the use of less expensive PD while also enhancing clinical results is highlighted by the ESRD population's increasing expansion in the face of scarce resources. However, there are significant regional differences in the development of PD. All of these elements work together to sustain a high-quality PD programme that enhances patient clinical results. They are interconnected and detachable from one another.

Conflict of Interest

There are no conflicts of interest by author.

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