

ASIA-PACIFIC CHAPTER NEWSLETTER

INTERNATIONAL SOCIETY FOR PERITONEAL DIALYSIS (ISPD)

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FROM THE EDITORIAL OFFICE

Dear All,

Welcome back from the ISPD 2012 meeting at Kuala Lumpur. We are happy to announce that our colleagues from Australia and New Zealand have joined. As a result, we are now the *Asia-Pacific Chapter of ISPD*. The name of this letter is changed accordingly.

In this issue, we are delighted to have Dr. Konstandina Griva from Singapore present her work on the psychological issues of home dialysis. In addition, Dr. Hiromichi Suzuhk and his colleagues from Japan present their findings on the role of dialysis nurses in the out-patient clinic.

You are most welcome to distribute this newsletter electronically or in printed form to your colleagues and those of interested parties. If you or your colleagues want to receive this newsletter directly from our editorial office, please send your e-mail address to: ispd@multi-med.com

Sincerely,
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PERITONEAL DIALYSIS: BETTER AT HOME OR BURDENED AT HOME?

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The nature and management of end-stage renal disease (ESRD) has a significant impact upon individuals' lives. The psychological impact of ESRD is a function of the disruptive and permanent consequences of the disease and treatment on patients' physical health, identity, emotions, family, lifestyle, relationships, and employment. Patients are required to make ongoing psychological adjustments over the course of their illness: accepting the life-threatening diagnosis and need for lifelong treatment, learning the techniques of dialysis, integrating treatment into their lives, and coping with treatment transitions/failures, related side-effects, and complications.

Adjustment to ESRD is therefore challenging; depression being identified as the prevalent psychopathology associated with poor clinical outcomes such as increased mortality and hospitalization [1-3]. Depression possibly affects medical outcomes through modification of immunologic and stress responses, impact on nutritional status, and/or reduced adherence to prescribed dialysis and medical regimens [4,5]

Although PD affords greater opportunities for control, autonomy, and the convenience of home-based treatment [6] recent studies have reported distressingly high levels of depression in patients maintained on PD regime [7-10].

With current emphasis on expanding utilization of PD and shifting care away from overburdened HD centers, it is important to consider carefully

what may place PD patients at risk for emotional distress. Thus, allowing for the implementation of appropriate screening and support programs for patients at need.

Such considerations need to explore how PD exigencies may interact with individual resources and circumstances. Research work shows that chronic disease management and adaptation is a multifaceted process and that there is a complex interplay between personal and socio-cultural factors, and objective treatment features, that may impede or facilitate patients' adaptation [11,12].

There are certain features in PD that may challenge patients and families alike. PD is considered more time intensive especially when manual exchanges are involved and may be stressful on a more sustained basis due to the daily responsibility that patients must take for their health and wellbeing [13]. Emotional distress is also likely to arise in PD patients that rely on caregivers for PD as they may feel like a burden to the family. This may be the case particularly with patients from an Asian background because cultural values of interdependence and collectivism mean that family stability and wellbeing are often more highly esteemed than the individual [14]. Besides being a burden to the caregiver, PD treatment may impact greatly on marital and family dynamics. Constraints imposed on family living space, medicalization of family environment, and a lack of compartmentalization of dialysis/non-dialysis life may strain relationships and trigger tension and emotional distress.

Closely related are issues associated with social support and social isolation. PD patients often perceive limited opportunities for social activities, by virtue of the nature of PD being a home-based daily therapy. In many cases, PD schedules especially when manual exchanges are required, may render patients homebound rather than 'out and about'. Although PD should be the modality that allow patients to fit and customise dialysis around their life, for many patients PD regimes dictate and constrain life.

Cultural norms may mean that patients may be more reticent in disclosing disease identity to others. As such, PD may restrict social activities at home or may make it harder for patients to conceal identity from others. Moments such as the regular medical supplies delivery, may contribute to feelings of losing face and thereby emotional distress.

PD regimes are less technically challenging than home dialysis and can empower patients yet, it seems that patients' experience with PD may be not uniformly positive. It is clear that depression is under-diagnosed and undertreated; [15]. Data from the DOPPS cohort revealed that among ESRD patients with a physician diagnosis of depression, only 34.9% were on antidepressants [16].

Renal health care professionals face a real challenge in trying to address the emotional issues of their PD patients. On one hand identifying patients in distress in clinical practice is difficult; accurate assessment and screening is complicated by the overlap of depressive symptomatology with symptoms of uremia. Cultural variations in conceptualization and expression of distress may present additional challenges especially for patients from Asian background where somatization of distress may be more socially acceptable [17]. The time constraints and the less regular contact with HCPs may also mean that symptoms of distress are overlooked or go unnoticed for longer. Nevertheless, it is important to note that PD patients are satisfied with their care in PD centers, more so than HD patients [18]. The challenge therein lays in expanding existing hospital based PD services into community focusing on on both emotional as well as clinical wellness.

Pharmacological therapy can improve symptoms of depression yet there are concerns as to whether the side-effects of antidepressant medication can be well tolerated. Hence, pragmatic and evidenced-based psychological interventions require evaluation. In this regard, targeting unhelpful illness and treatment perceptions and enhancing opportunities for social networking and support might be an effective approach in order to improve depression in PD patients. Recent work indicates that cognitive behavioral therapy might be an efficacious, acceptable, and practical treatment option for depressive symptoms in dialysis patients. [19] However, such programs may be hard to integrate into standard clinical care. To this end it may be worthwhile to evaluate more feasible and accessible ways of providing support, such as nurse or peer-support programs. Clinic integrated or delivered over the telephone that have been shown to be effective in other patient populations can be realistically implemented in clinical practice.

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ROLE OF THE NURSES IN A CONTINUOUS AMBULATORY PERITONEAL DIAGNOSIS OUTPATIENT CLINIC

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The role of nurses in our hospital during the periods of patients' selection of the type of renal replacement therapy (RRT), introduction to peritoneal dialysis (PD) and continuous maintenance of PD is described.

I. Nursing during therapy selection period

Educational goal: Enable patients to choose for themselves the therapy for end-stage renal failure.

Instructional content

During this period, the content of the education will focus on basic knowledge of the kidney, chronic kidney disease, and therapeutic options.

1. Basic information on renal function and chronic kidney disease (CKD) and RRTs for end-stage renal failure.

Important nursing issues during this period

1. First, communicate information to patients and families using simple words while carefully observing the level of comprehension and reaction to the information.
2. Arrange for availability of leaflets, Digital Versatile Disc (DVD) presentations and interviews with patients who are currently receiving RRT so patients can imagine their life while undergoing each type of RRT. We call this the “peer learning method”.
3. Give explanations in short sessions, usually less than 1 hour; if more time is needed, plan additional short sessions. Listen closely to patients' comments in consideration of their condition. Moreover, prepare explanations for family members who support patients so patients will not feel uneasy and alone.
4. Give explanations that match the “patient's level” clinically and psychologically. In particular, providing psychological support is an important role of nurses so that patients can accept RRT based on their emotional state at the time of the decision to introduce PD. The “patient's level” indicates the point on the path toward reaching the final goal of “acceptance of RRT”.

II. Nursing in PD introduction period

II-i. From the decision of introduction of PD to Tenckho® catheter insertion

Educational goal

Patient should:

1. Understand the necessity of PD therapy and self-care.
2. Decide upon the brand of peritoneal dialysis system he or she prefers (TERUMO, BAXTER, FRESenius, JMS, and others).

Instructional content

1. Basic information on PD: its principles and methods.
2. Practice of PD: common steps and equipment.
3. Characteristics of PD: advantages and disadvantages.

4. Gross outline of surgical techniques in Tenckhoff® catheter insertion (characteristics of Tenckhoff® catheter / conditioning of catheter)
5. Explanation of PD systems and characteristics of each brand.
6. After patient decides on what PD system will be used, an explanation of the parts of that system should be given according to the brand.
7. Brief overview of daily self-care.

II-ii. After Tenckhoff® catheter is inserted: introduction period of actual PD

Educational goal

Patient should:

1. Understand the procedure necessary for self-administration of PD for home care and acquire the skills to perform the procedure.
2. Acquire knowledge of how to exchange bags with sterile technique.
3. Understand peritonitis.

Instructional content

1. Necessity and method of hand washing.
2. Bag exchange procedures.
3. Teaching patient to record notes himself/herself.
4. Normal/abnormal findings of peritoneal dialysate.
5. Basic knowledge of PD-associated peritonitis.
6. Methodology for checking vital signs.
7. Body weight/blood pressure measurement.
8. Necessity and importance of fluid management, such as checking dialysate weight, body weight, urinary volume and water intake.
9. Methods for management of exit site; typical signs of tunnel infections.
10. Open shower bath method / bathing method for public baths and hot springs.

II-iii. Before leaving the hospital

Educational goal

Patient should:

1. Acquire the knowledge necessary for home care.
2. Gain confidence for self-administration and practice each step until it becomes automatic.
 - a. Bag exchange procedures
 - b. Exit-site management
 - c. Shower bathing method
3. Understand and evaluate normal/abnormal conditions of the dialysate, exit site, and vital signs.
4. Independently conform to the treatment schedule.

Instructional content

1. Social security system.
2. Help patient prepare necessary supplies for PD in both the home and workplace (school).
3. Help patient determine a location for bag exchange procedures in home and workplace (school).
4. Schedule for bag exchange.
5. Diet therapy after introduction of PD.
6. Management of the delivery system for equipment.
7. Everyday life and social life.
8. Periodical outpatient consultation.

III. Nursing in the peritoneal dialysis maintenance period

Educational goal

Patient should:

Plan maintenance of their general condition and improve quality of life by self-care.

Instructional content:

At this point, instruction is combined with interaction and observation of patients during visits to the dialysis center.

1. Assist physicians with physical examinations. At this time, observe the patient's general condition and ask the patient about his or her general condition, such as changes in body weight, dialysate volume, blood pressure at home, etc. This will provide clues as to what further education is needed.
2. Check patient's notes made since previous visit.
3. Check laboratory data.
4. Observe exit site and verify care of the site.
5. Confirm patient understands the bag exchange procedures.
6. Explain rationale for various examinations (blood tests/cell count in dialysate/urinalysis/thoracoabdominal X-ray/electrocardiography, etc.).
7. Provide counseling/instruction in accordance with patient's condition.
8. Check on supplies, adjustment of equipment, and dialysate.
9. Explain periodic connection tube replacement.
10. Provide support in the transition period from PD to HD (hemodialysis), home HD and renal transplantation, as may be necessary.

BUSINESS NEWS

A SWEET SURRENDER

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Baxter

The use of glucose as the osmotically active agent in PD solutions remains the mainstay of most PD therapy in 2012. However, as newer agents and formulations of glucose have become available, the advantages of low-glucose regimens are now emerging. I strongly advocate the use of minimum-glucose regimens from the start of dialysis, and have not prescribed a 4.25% dextrose PD exchange for over 10 years. I was fortunate to be able to present some (but by no means all) of the data that support the long-term benefits of this practice at the very enjoyable ISPD meeting in Kuala Lumpur recently. I discuss some of this evidence below.

The glucose load absorbed after an exchange is dependent upon the glucose concentrations in the bag, the dwell time, and the mass transfer characteristics of the peritoneal membrane. Nevertheless, between 20-80 g of glucose may be absorbed per exchange (1) and, with 3.75 kcal per gram of glucose absorbed, this can easily provide 30-40% of the recommended daily caloric intake. A reduction of nearly 70% in peritoneal glucose exposure can be obtained in a 4-exchange CAPD regimen by replacing a high-glucose bag with icodextrin and a low-glucose bag with an amino acid solution (2). This is a substantial drop in caloric intake and may reduce weight gains associated with CAPD. There is evidence that glucose absorbed orally or via PD is abnormally metabolized in PD patients with relative insulin resistance and hyperinsulinaemia (3,4). Normal glycaemic control is therefore more difficult to achieve in PD patients, leading to higher indices of long term glucose control (such as HbA1c, fructosamines and glycated albumin). The fact that higher comparative levels of HbA1c have been associated with worse outcomes in both diabetic and non-diabetic PD patients (5,6), and that glucose sparing regimens can reduce HbA1c levels within six months (7) suggest that such a reduction is in itself a useful surrogate endpoint.

Many patients fear they will become fat on PD, and this is, sometimes fuelled by inadequately informed nephrologists. It is true that many patients do gain weight after starting any form of dialysis (8), but it is often an accumulation of abdominal fat that is seen after starting PD (9). Such weight gain may be related to the genetics of an individual's mitochondria (10); however, it can be minimized by reducing the glucose load using icodextrin (11).

Other metabolic abnormalities that are associated with peritoneal, compared to haemodialysis, are differences in lipid profiles, in particular a strikingly higher triglyceride level (TG) seen in PD (12). This hypertriglyceridaemia appears directly related to the glucose load. In one study where glucose bags were replaced by icodextrin, the reduction in the TG level was correlated directly with changes in glucose absorption (13). Hypertriglyceridaemia has long been considered a cardiovascular risk factor in the non-dialysis population (14) and the demonstration that this may be modified by glucose-sparing dialysate regimens is of potential clinical importance.

One of the familiar issues faced by clinicians treating patients on PD is the variable, but almost inevitable, peritoneal membrane failure. In histology terms, this is associated with changes in, and loss of, peritoneal mesothelial cells. This well described process has multiple causes, but glucose exposure is clearly a major insult (15). Clinical correlates of such membrane changes include increased solute transport characteristics and loss of ultrafiltration capacity, resulting in a failure of salt and water removal, aggravating hypertension and left ventricular hypertrophy. The clinical response to these changes includes efforts to intensify ultra filtration by increasing PD glucose concentrations, which in turn further accelerates membrane damage. Several studies have shown how higher glucose regimens are associated with adverse membrane changes (16,17) and are independent of initial membrane type, whilst those using icodextrin-based regimes appear to better preserve membrane characteristics.

Compellingly, two recently published cohort analyses, one retrospective (18) and one prospective (19), have shown how the use of icodextrin-based PD regimens have tangibly superior outcomes both in terms of technique survival and mortality. In the latter study, an important inverse relationship between overall PD glucose dose and survival was demonstrated.

If we are sufficiently fortunate to practice in a healthcare system that can afford non-glucose based PD solutions, it is becoming increasingly evident that our patients are disadvantaged by using high-concentration glucose solutions. The challenge now is to make the necessary regulatory and economic arguments to allow earlier use of non-glucose based solutions ... literally a sweet surrender.

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Asian Chapter Scholarship

The Asian Chapter scholarship provides up to 3 months of support in the training of clinical PD for doctors and nurses from Asia. Deadlines for application of each round proceed as follows: twice a year at 30 June or 31 December. The next deadline is 31 December 2012. Details and application procedures can be found on the ISPD website (www.ispd.org) under the Regional Chapters – Asian Chapter.

Upcoming Meetings

33rd Annual Dialysis Conference

March 9th-12th, 2013

Seattle, Washington, USA

Website: som.missouri.edu/dialysis

ISN World Congress of Nephrology 2013

May 31st- June 4th, 2013

Hong Kong

Website: www.wcn2013.org

6th ISPD Asia-Pacific Chapter Meeting

September 27th-29th, 2013

Taipei City, Taiwan