



ISPD Asia-Pacific Chapter Newsletter, April 2023

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Prepared by Chia-Te LIAO and Cheuk-Chun SZETO

News from the ISPD

ISPD APC 2025 meeting call for bidding

Deadline for bidding

30 June 2023

Submission of application

A soft copy of the bid application should be sent to the ISPD APC coordinator:

CC Szeto

c/o Department of Medicine & Therapeutics, Prince of Wales Hospital, The Chinese University of Hong Kong. Tel: (852) 3505-3101; Email: ccszeto@cuhk.edu.hk

Content of the bid application

- The name of president of the local organizing committee
- Confirmation of support from the national or regional society of nephrology
- The proposed timing and venue of conference
- The convention facilities with preferably a venue hotel in the convention complex.
- The strength and experience of the local organizing committee, national or regional society of nephrology in relation to PD practice, development, research, and organization of conferences
- Rationale why Asia Pacific Chapter conference should be hosted in that country
- Transportation information
- Accommodation details (at different budgetary levels)
- The proposed budget to host the meeting
- Local attractions for visitors

Financial Arrangement

Any profits arising from the Congress will be split 50-50 between the Local Organization Committee and the ISPD. Majority of the profit going to ISPD will be designated for promotion and development of PD in the Asia Pacific region. Any further financial loss will be the responsibility of the organizing committee.

Decision making body

All bid applications will be reviewed by the ISPD APC Executive Group. A final decision would be made in close consultation with the ISPD President. The ISPD APC will convey the decision to the ISPD Council. The process will be completed, and result announced around 18 months before the conference.

Renew your membership!

Visit <https://ispd.org/memberships/> to join the ISPD or renew your membership. Membership benefits of the International Society for Peritoneal Dialysis include:

- print and/or online subscription to Peritoneal Dialysis International
- Receipt of PD News
- Online access to ISPD Guidelines
- Special registration fees at ISPD Congress, Chapter Meetings and the Annual Dialysis Conference
- Application for ISPD Scholarships and Grants

Membership for developing countries can be done at advantageous rates, by grouping members by institution or region geographical area. Write to admin@ispd.org for more information.

Upcoming Meetings

10th International Society for Peritoneal Dialysis Asia Pacific Chapter meeting

22-24 September 2023

New Delhi, India



Join us at the ISPD APCM 2023 in Delhi (India) In addition to these issues being addressed, recent knowledge in PD needs to be imparted to PD practitioners to convince them to initiate patients on PD. The 10th APCM (ISPD Asia-Pacific Chapter Meeting) scheduled in New Delhi from September 22-24, 2023 will specifically aim to tackle these issues and bring about heightened awareness and thus provide a fillip to increased PD usage.

[Download the event brochure:](#)

<https://ispd.us3.list-manage.com/track/click?u=53155209e7352eaa600b06821&id=0d99d4478d&e=817e978b8e>

Registration and Abstract Submission Open

While the Scientific Committee is finalizing the last details regarding the composition of the Congress Faculty and the Scientific Programme, we can already share the links to register and to submit your abstracts. Fee structure for the ISPD Asia Pacific Chapter Meeting:

- International Delegate (ISPD member): USD \$250
- International Delegate (ISPD non-member): USD \$300
- Indian delegate (Nephrologist/MD): INR ₹12,000
- Indian delegate (student/trainee/fellow): INR ₹5,000
- Indian delegate (nurse/allied professional/technician): INR ₹2,000

Register here:

ISPD APC MEETING 2023

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Submit your abstract:

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International Society for Peritoneal Dialysis 2024 congress

26-29 September 2024

Dubai World Trade Center, Dubai, UAE

More information: www.ispd.org/dubai2024

Request For Proposal

HOST THE ISPD CONGRESS IN 2026

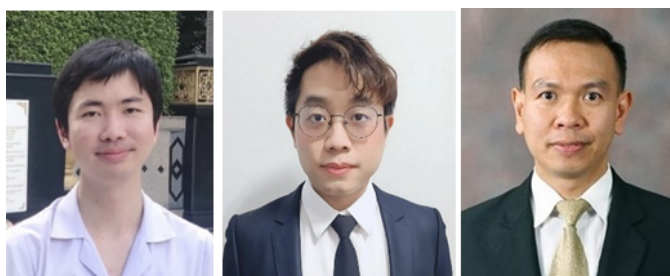
We are also looking for the next host for the ISPD Congress after the ISPD Congress in Dubai in 2024. Do you want to learn more?

[Click here to download the Request for Proposals \(RFP\) document](#) and find all the information

The deadline to present your proposal is September 1st, 2023

Research News from Asia-Pacific Region

The role of protocol-based oral potassium treatment in reducing the risk of peritonitis in PD patients



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Peritonitis among peritoneal dialysis (PD) patients is associated with substantial mortality and morbidities. Several risk factors have been identified for the development of peritonitis. One crucial modifiable risk factor is hypokalemia [1]. Persistent hypokalemia was associated with both higher subsequent peritonitis and mortality rates [2]. Hypokalemia, defined as serum potassium < 3.5 mEq/L, is often observed among patients on maintenance PD, with a prevalence varying from 3-47% across countries involving the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS); 3% (the United Kingdom), 5% (Australia/New Zealand), 6% (the United States), 9% (Canada), 12% (Japan), and 47% in Thailand [2, 3]. High prevalence of hypokalemia among PD patients possibly results from inadequate intake and increased potassium loss through PD effluent [4]. Since potassium is vital for all cell functions, dyskalemia could increase the risk for peritonitis through many mechanisms, including (1) gastrointestinal (GI) dysmotility causing intestinal bacterial overgrowth and bacterial translocation [5]. (2) impairment of skeletal muscle strength, leading to the limited performance of high-quality PD by patient self-care; and (3) impairment of immune defense against pathogens.

The 2022 ISPD Peritonitis Guidelines recommend avoiding and treating hypokalemia to reduce the risk of peritonitis with a level of evidence 2C. However, the benefits of the treatment of hypokalemia on peritonitis had not been demonstrated. A recent multicenter randomized controlled trial (RCT) has addressed this critical question published in AJKD 2022 November chapter.3 The study performed in 167 hypokalemic PD patients demonstrated that the participants receiving a protocol-based potassium supplementation (titratable dose of oral potassium chloride (KCl) to maintain serum potassium of 4-5 mEq/L) had significantly longer median time (90 days) to first peritonitis episode, a lower hazard ratio of peritonitis, and a greater proportion of peritonitis-free participants than those receiving reactive supplementation when serum potassium is <3.5 mEq/L.3 However, no statistically significant differences between the intervention and control groups were observed concerning mortality, hospitalization, and permanent hemodialysis (HD) transfer (Figure 1). The detail of the protocol is as follows:

Protocol-based Potassium Treatment (Intervention Group)

Initial Phase

- K < 3.5 mEq/L: 10% KCl elixir (30 mL; oral; every 4 hours; ×2), then KCl tablet (500 mg; oral; 3x/d, after meals)
- K 3.5-4.0 mEq/L: KCl tablet (500 mg; oral; 3x/d, after meals)

Maintenance Phase

- K < 3.5 mEq/L: 10% KCl elixir (30 mL; oral; every 4 hours; ×2), then add KCl tablet (500 mg; oral; 3x/d) to the previous dose; monthly follow-up
- K 3.5-4.0 mEq/L: Add KCl tablet (500 mg; 2x/d) to the previous dose; bimonthly follow-up
- K 4.0-5.0 mEq/L: Maintain the same dose; bimonthly follow-up
- K 5.0-5.5 mEq/L: Reduce KCl tablet (500 mg) by 1 tablet per day from the previous dose; bimonthly follow-up
- K > 5.5 mEq/L: Obtain ECG; stop KCl tablets, then give calcium polystyrene sulfonate 30 g orally (urgent treatment [membrane stabilization by calcium salts and potassium-shifting agents] was required if accompanied by characteristic ECG changes); bimonthly follow-up

Reactive Potassium Treatment (Control Group)

- K < 3.5 mEq/L: 10% KCl elixir (30 mL; oral; every 4 hours; ×2), then KCl tablet (500 mg) at dosage and schedule depending on the attending physician's clinical judgment

In brief, adult (≥ 18 years) end-stage kidney disease patients on maintenance PD for more than 3 months with hypokalemia (at least 3 values or an average value <3.5 mEq/L in the past 6 months) who had no conditions as follows were included in the study: (1) recent peritonitis within 3 months, (2) receiving hybrid HD and PD, (3) Child class C liver cirrhosis, (4) chronic infection (e.g., HIV, tuberculosis, bronchiectasis, osteomyelitis), (5) cancer, or (6) gastrointestinal disease (e.g., inflammatory bowel disease, malabsorption). The 167 eligible patients were randomly assigned to receive either protocol-based potassium supplementation (intervention group, n = 85) or conventional potassium supplementation (control group, n = 82). Among patients receiving protocol-based potassium supplementation, 10% KCl elixir and KCl tablet were prescribed according to the protocol to achieve and maintain the serum potassium level of 4.0-5.0 mEq/L. In the control group, the patients received potassium supplements only when the serum potassium level < 3.5 mEq/L. Both groups received diet counseling concerning adequate potassium intake.

The median follow-up time was 401 (interquartile range [IQR] 315-417) days. Time-averaged serum potassium levels throughout the study period were 3.97 ± 0.55 mEq/L and 3.47 ± 0.44 mEq/L in the intervention and the control groups, respectively. The time to first peritonitis, a primary outcome of the study, was significantly longer among the intervention group compared with the control group (223 [IQR, 147-247] vs. 133 [IQR, 41- 197] days, respectively; $p = 0.03$). Compared with the control group, the proportion of peritonitis-free participants (29% [24/82] vs. 15% [13/85]; $p = 0.03$) was significantly greater in the intervention group, while the intervention group had a significantly lower hazard of peritonitis (hazard ratio [HR], 0.47 [95% CI, 0.24-0.93]). Gram-positive bacteria were the predominant organism in the intervention group, while the main pathogens in the control group were Gram-negative bacilli.

Secondary outcomes, including all-cause mortality, cardiovascular death, hospitalization, and HD transfer, were not different between the groups. The overall peritonitis rate in the intervention group tended to be lower than the control group (0.24 vs. 0.42 episodes per patient-year at risk, respectively; $p = 0.1$). The adverse events, including GI adverse events and hyperkalemia (serum potassium level > 6 mEq/L), occurred with a small number in the intervention group (diarrhea 1.90 episodes/1,000 participant-day; hyperkalemia 3.5%).

In conclusion, protocol-based oral potassium treatment to maintain a serum potassium concentration in the range of 4-5 mEq/L appeared safe and significantly reduced the risk of peritonitis in patients receiving PD. Not only do the RCT's results support the statement but also they add evidence to the 2022 ISPD Peritonitis Guidelines concerning hypokalemia treatment to prevent peritonitis.

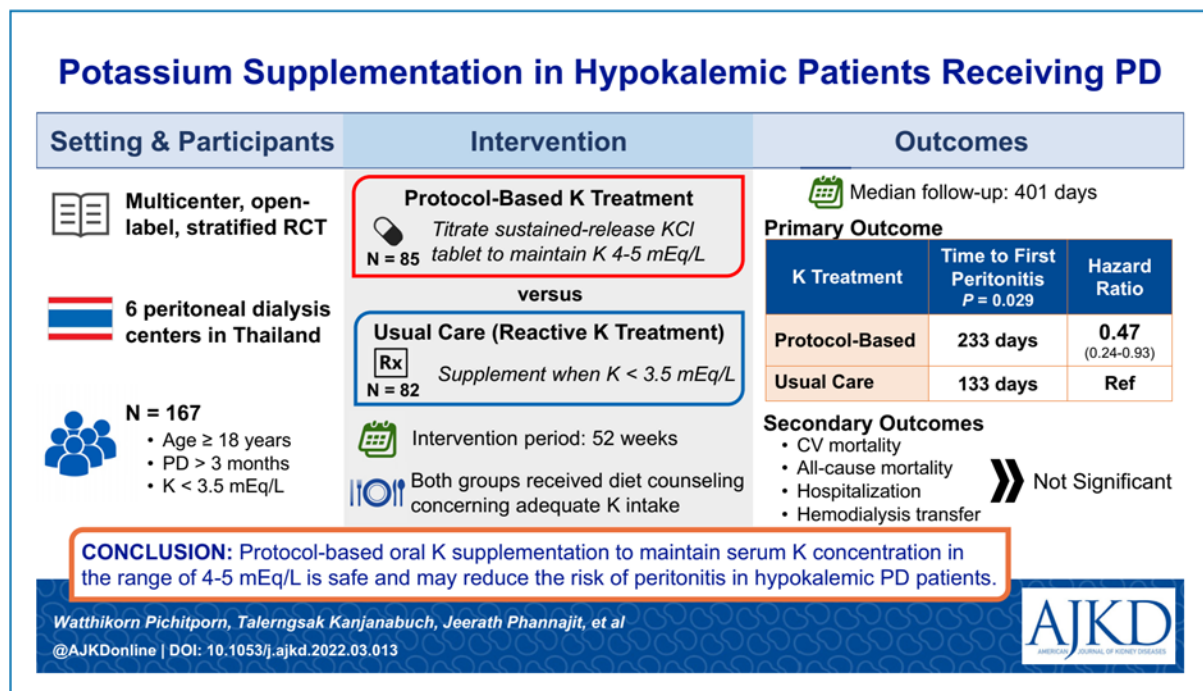


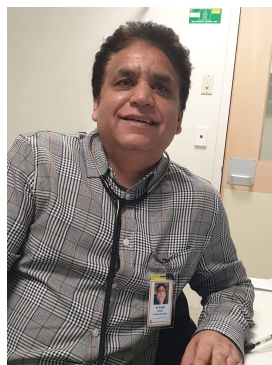
Figure 1. Virtual abstract of the “Efficacy of Potassium Supplementation in Hypokalemic Patients Receiving Peritoneal Dialysis: A Randomized Controlled Trial” published in AJKD 2022.

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Range and Consistency of Gastrointestinal Outcomes Reported in Peritoneal Dialysis Trials: A Systematic Review



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INTRODUCTION Gastrointestinal (GI) symptoms are frequent in patients receiving peritoneal dialysis (PD) due to GI motility disorders, indigestion, [1] anxiety, medication side-effects, altered gut microbiome, [2-4] depression, and abdominal compartmental effects (pressure, volume, composition) of PD fluid. [5] Despite the concern and high prevalence of GI symptoms, limited attention has been paid to standardizing the reporting of GI outcome measures in PD trials to permit better evaluation of the impacts (especially quality of life [QOL]), frequency, and treatment of GI symptoms. Therefore, this study aimed to describe the range and consistency of GI outcomes and outcome measures used in contemporary PD trials.

METHODS

We conducted this systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. [6] A comprehensive search was conducted in Medline through the PUBMED EMBASE, and the Cochrane Central Registry of Controlled Trials (CENTRAL) with English language restrictions to identify relevant Randomized Controlled Trials (RCT) published between January 2010 and July 2022. Study populations of all ages were included. Trials involving patients with acute kidney injury undergoing temporary PD, *post hoc* analyses of RCTs, observational studies, protocols, systematic reviews and meta-analyses, were excluded.

The outcomes were categorized into three main groups: 1) clinical ("direct" medical endpoint based on clinician assessment or diagnosis that represents or characterizes a meaningful outcome), 2) a surrogate (laboratory, imaging-based, or physical sign that is used as a substitute for a clinically meaningful endpoint), and 3) patient-reported (outcomes reported by the patients) using standardized definitions. [7]

RESULTS

Trial Characteristics

We identified 61 trials (involving 17,507 participants) that reported GI outcomes. The trials were conducted across 35 countries in Asia, Africa, Europe, Oceania, Latin America, and North America. The median trial duration was 12 (interquartile range [IQR] 4-52) weeks, and the median sample size was 86 (IQR 47-236). The most studied type of intervention was pharmacologic (80%). The outcome events were patient-reported in 45 (74%) trials, surrogate in 5 (8%) trials, clinical in 2 (3%) trials, and a combination of clinical, surrogate, and/or patient-reported outcomes in 9 (15%) trials.

GI Outcomes

The most reported GI outcomes were nausea in 27 (44%) trials and diarrhea in 26 (43%) trials, followed by vomiting in 22 (36%), constipation in 21 (34%) trials, and abdominal pain in 19 (31%) trials. The other frequently reported outcomes were GI bleeding in 8 (13%), dyspepsia, and unreported GI side effects in 7 (11%) of trials each. The fecal microbiome was reported in 3 (5%) trials. Figure 1 shows the scope and frequencies of GI outcomes reported in randomized controlled trials in individuals on PD. [8]

GI Outcome Measures and Metrics

Of the 172 outcome measures, 153 (90%) were patient-reported outcomes with no defined metrics, including *abdominal distension, belching, difficulty swallowing, discolored stools, dyspepsia, flatulence, gastroesophageal reflux, unreported GI side effects, gingivitis, heartburn, increased appetite, indigestion, mouth ulcers, and vomiting*. Nausea and diarrhea contributed to 16% and 15% of all GI outcome measures, respectively, while vomiting, constipation, and abdominal pain contributed to 13%, 12%, and 12%, respectively.

Two trials reported nausea as a primary study outcome using the *Symptom Assessment Score (SAS) (measured at baseline and four weeks after discharge)* and the *Kidney Disease Quality of Life – Short form (KDQOL-SF) -36 score (measured at baseline and 48 weeks)*. One trial each reported *anorexia and abdominal pain* as the primary study outcome using the *SAS (measured at baseline and four weeks after discharge)*. Similarly, *bowel habits, constipation, and stool type* were also reported as the primary study outcome in one trial, each using the *Bristol stool form scale (measured at baseline and at four weeks)*.

The *fecal microbiome* was reported as the primary outcome event in all 3 (100%) trials that used GI Symptom Rating Scale (GSRS), subjective global assessment (SGA) score, and fecal biochemical and microbiological assays (fecal cresol, fecal indole, fecal Ph; fecal polymerase chain reaction, bacterial species Shannon-Weiner diversity index). Measurements were completed at baseline and repeated at various time intervals (four weeks, one month, 12 weeks) for the three trials. *GI bleeding* was reported as a secondary outcome in 3 (37%) out of 8 trials.

Non-GI Outcomes

PD peritonitis was the most frequently reported non-GI outcome in 24 (40%) trials, followed by death in 13 (21%) trials, exit site infection in 9 (15%) trials, hernia in 6 (10%) trials and peritoneal fluid leak in 5 (8%) trials.

DISCUSSION

GI outcome events were reported in only 19% of clinical trials in PD patients and exhibited significant variability in how they were defined and measured. Approximately 90% of outcome events across all trials were patient-reported adverse events with no clearly defined metrics. The most reported GI outcomes were, in descending order of frequency, nausea, diarrhea, vomiting, constipation, and abdominal pain. The risk factors associated with the severity of GI symptoms include higher glycosylated hemoglobin, higher depression score, higher daily pill intake, lower urine output, and lower diastolic blood pressure. [9]

The present systematic review thus highlights that GI outcomes are not currently captured in most trials despite being a frequently observed problem in PD patients. Moreover, when PD trials do report GI outcomes, they are described using highly variable definitions. This is important because GI problems were determined by patients, caregivers and clinicians participating in the global Standardized Outcomes in Nephrology – Peritoneal Dialysis (SONG-PD) initiative to be middle-tier outcomes that are “critically important to some stakeholder groups” and should be reported in some trials. [10,11] It could be further argued that GI problems directly or indirectly impact a number of the identified top, critically important “core” outcomes in PD, such as PD infection, technique failure (hemodialysis transfer related to catheter dysfunction or poor ultrafiltration) and life participation.

CONCLUSION

GI symptoms are common in PD patients and are mostly reported as patient-reported GI adverse effects. The reported GI outcome measures are inconsistent and heterogeneous, making it difficult for patients, caregivers, clinicians, and policymakers to make informed decisions. To improve the relevance and consistency of GI outcome measures used in clinical trials, we recommend identifying and establishing a standardized metric capturing GI outcomes for use in relevant PD trials.

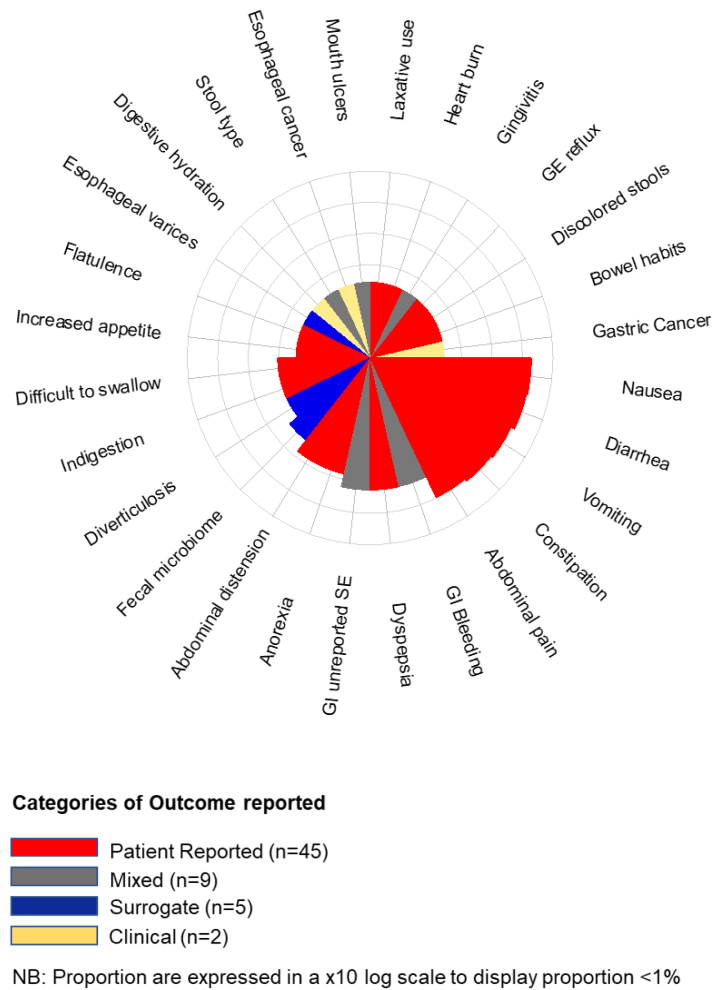


Figure 1. Chart showing the scope and frequencies of gastrointestinal outcomes reported in 61 randomized controlled trials in individuals on peritoneal dialysis [8].

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The patient's point of view about dialysis to find gaps in shared decision-making



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The policy of dialysis for Thai patients under the universal health coverage scheme (UHC) changed from the peritoneal dialysis (PD) first to share decision-making (SDM) policy in February 2022. Most of the patients with end-stage kidney disease (ESKD) choose hemodialysis (HD) as the first dialysis modality. The number of patients with HD increased from 27,638 cases before February 2022 to 55,463 cases after changing to the SDM policy. The percentage of increase in patients with HD was 100.7%. The number of HD centers increased from 711 to 849 (19.41%) before and after changing policy, respectively. A previous study shows that healthcare providers (HCPs) should provide complete information on all dialysis modalities to patients and families during the processes of SDM [1]. The bias or incomplete information from HCPs might be a cause of inadequate patient education [2]. We performed the study to interview patients for the reasons for choosing dialysis modalities or other options of treatment.

The two volunteers (UL and MM) who were HCPs and retired from previous work interviewed patients and families. Patients were selected randomly from 6 hospitals registered with the National Health Security Office Region 4 (NHSO4). The interval of interviewing was from January to February 2023. The contents of the interviews were recorded by written and audiovisual aids. Patients who agreed to participate would sign informed consent before starting the interview. 41 patients were interviewed during the hospital. Male and female gender were 17 (41.5%) and 24 (58.5%), respectively. The number of patients less than 60 years of age was 20 (48.8%) cases. The number of patients in each dialysis modalities shows in Table 1. The reasons for choosing dialysis modalities shows in Table 2.

There are several challenges in the processes of SDM. Patients may receive incomplete information or misunderstand in risks and benefits between HD and PD. Further studies seeking effective interventions such as patient decision aids, the nephrologist's checklist, or models of conversation are needed to strengthen the processes of SDM.

Table 1 Number of patients in each dialysis modality

Dialysis modality	Number of patients (%)
CAPD and APD	17 (41.5)
HD	13 (31.7)
Non-dialysis	10 (24.4)
Pending making decision	1 (2.4)

Table 2 Reasons for choosing dialysis modalities

Reasons for choosing dialysis modalities	Number of patients (%)
PD First Policy (choose PD)	4 (9.8)
Shared decision-making policy (choose HD)	3 (7.3)
Indications according to medical conditions (HD or PD)	7 (17.1)
Convenient to do dialysis at home (choose PD)	9 (22)
Cost of traveling to HD (choose PD)	1 (2.4)
Convenient for having HCPs doing dialysis (choose HD)	1 (2.4)
Follow suggestions from the physician (choose HD)	2 (4.9)
The concern of infection related to PD (choose HD)	3 (7.3)
Deny KRT	3 (7.3)
Pending making decision	1 (2.4)
Palliative care (medication treatment)	2 (4.9)
Waiting to receive information from HCPs	5 (12.2)

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Literature update

- Pichitporn W, Kanjanabuch T, Phannajit J, et al. Efficacy of Potassium Supplementation in Hypokalemic Patients Receiving Peritoneal Dialysis: A Randomized Controlled Trial. *Am J Kidney Dis.* 2022;80(5):580-588.e1. doi:10.1053/j.ajkd.2022.03.013
 - **Comment: This study showed that protocol-based oral potassium treatment to maintain a serum potassium concentration in the range of 4-5 mEq/L may reduce the risk of peritonitis in patients receiving PD. The approach is practical and could be easily incorporated into routine clinical practice.**
- Leung WY, Ng MSN, Hau AKC, So WKW. Retraining programme for older patients undergoing peritoneal dialysis: A randomised controlled trial. *J Ren Care.* 2022;10.1111/jorc.12450. doi:10.1111/jorc.12450
 - **Comment: This study did not find any benefit of routine retraining, but the sample size was small and the study was terminated prematurely. It also makes good sense to identify specific subgroups that would be benefited from retraining.**
- Htay H, Foo MWY, Gan SSW, et al. COVID-19 vaccination in peritoneal dialysis patients [published online ahead of print, 2022 Aug 29]. *Int Urol Nephrol.* 2022;1-7. doi:10.1007/s11255-022-03302-5
 - **Comment: The message is simple. COVID-19 vaccination is well tolerated and should be offered to all PD patients unless there is a concomitant absolute contraindication.**

- Li P, Cao X, Liu W, et al. Evolving peritoneal dialysis care in Chinese mainland from 2010 to 2020: Comparison data from two surveys [published online ahead of print, 2022 Nov 30]. *Semin Dial.* 2022;10.1111/sdi.13129. doi:10.1111/sdi.13129
 - **Comment: This review showed that the prevalent PD population, especially those on machine-assisted PD, has increased drastically in China.**
- Oki R, Hamasaki Y, Tsuji S, et al. Clinical frailty assessment might be associated with mortality in incident dialysis patients. *Sci Rep.* 2022;12(1):17651. Published 2022 Oct 21. doi:10.1038/s41598-022-22483-8
 - **Comment: Although there are many tools to assess frailty, the Clinical Frailty Scale (CFS) used in this study is distinctly simple and easy to apply - even in resource-limited situations.**
- Hayat A, Walker RC, Vieceilli AK, et al. Range and consistency of gastrointestinal outcomes reported in peritoneal dialysis trials: A systematic review [published online ahead of print, 2022 Sep 20]. *Perit Dial Int.* 2022;8968608221126849. doi:10.1177/08968608221126849
 - **Comment: Although GI symptoms are common in PD patients, it is not commonly reported or considered as an outcome measure in clinical studies. There is also a need to improve the instrument that we use to assess the severity of GI symptoms.**