

Patient-Reported Advantages and Disadvantages of Peritoneal Dialysis: Results from the PDOPPS

Jeffrey Perl¹, Junhui Zhao², Douglas S. Fuller², Brian Bieber², James A. Sloand³, Lalita Subramanian², David W. Johnson⁴, Matthew J. Oliver⁵, Kriang Tungsanga⁶, Tadashi Tomo⁷, Rachael L. Morton⁸, Nidhi Sukul⁹, Bruce M. Robinson², on behalf of the clinical application of PD therapy working group

¹St. Michael's Hospital, Toronto, ON, Canada; ²Arbor Research Collaborative for Health, Ann Arbor, MI, United States; ³Baxter Healthcare Corporation, Deerfield, IL, United States; ⁴Princess Alexandra Hospital, Brisbane, QLD, Australia; ⁵Sunnybrook Health Sciences Center, Toronto, ON, Canada; ⁶King Chulalong Memorial Hospital, Bangkok, Thailand; ⁷Oita University Hospital, Yufu, Japan; ⁸The University of Sydney, Sydney, NSW, Australia; ⁹University of Michigan, Ann Arbor, MI, United States.

Background / Goal

Background

– Home-based peritoneal dialysis (PD) may offer patients different advantages and disadvantages compared to facility-based hemodialysis internationally.

Goal

- To better understand patients' perceptions of the advantages and disadvantages of PD treatment.
- To identify and rank the most frequently reported disadvantages of PD treatment
- To explore the characteristics of patients who were most affected by most frequently reported disadvantages of PD treatment.

Methods

- PDOPPS is a prospective cohort study of PD treatment and outcomes in Australia, Canada, Japan, New Zealand, Thailand, the United Kingdom (UK) and the United States (US). Opinions on how PD treatment impacts 17 aspects of daily life were assessed using the self-reported PDOPPS patient questionnaire (PQ).
- **Sample: 2684 patients in 7 countries who have provided at least 10 (out of 17) valid answers (answer choices other than "I do not know").**

Analysis:

- We displayed the 5 level responses (major disadvantage, disadvantage, neither an advantage or disadvantage, advantage, or major advantage) to each of the 17 questions
- For the two aspects that were most frequently considered a disadvantage:
 - We displayed responses by country
 - We showed patient characteristics by response level
 - We used marginal logistic GEE models to describe the association between patient characteristics and the two aspects, respectively.

Results

Figure 1: To what extent do you feel the following aspects of your peritoneal dialysis treatments are advantage or disadvantage?

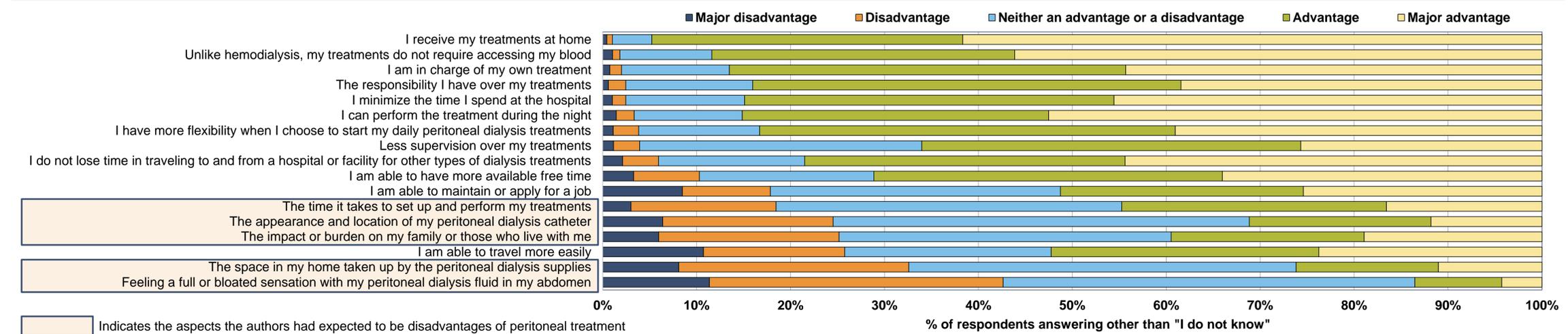


Figure 2: Distribution of the two aspects that were most frequently considered a disadvantage, by country

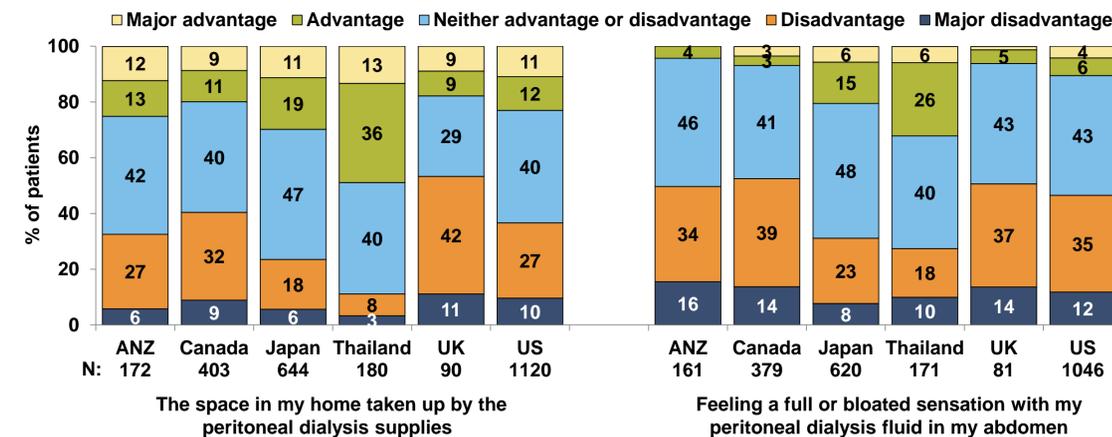


Table 1: Patient characteristics by categories of the two aspects that were most frequently considered a disadvantage

	Space taken up by PD supplies		Abdominal fullness	
	Disadvantage (n=848)	Neutral/advantage (n=1761)	Disadvantage (n=1046)	Neutral/advantage (n=1412)
Age, years	57.1 (14.9)	62.4 (13.7)	57.5 (14.4)	62.6 (13.8)
Gender, % male	57%	60%	55%	61%
Body mass index, kg/m ²	27.7 (6.7)	26.6 (6.1)	27.4 (6.6)	26.4 (6.1)
Diabetes, %	38%	41%	38%	41%
Daytime dwell, %	60%	67%	63%	67%
Total prescribed volume, L/day	8.4 (4.2)	7.8 (3.8)	8.3 (4.0)	7.8 (3.8)
PD modality, % APD	72%	58%	66%	58%
PD vintage, years	1.8 (2.1)	2.1 (2.2)	1.9 (2.2)	2.1 (2.3)
Peritoneal Kt/V urea	1.42 (0.57)	1.38 (0.50)	1.40 (0.52)	1.39 (0.53)
Physical component summary (PCS)	37.6 (10.3)	40.6 (10.4)	38.0 (10.0)	40.9 (10.5)
Mental component summary (MCS)	46.1 (10.9)	48.9 (10.9)	46.2 (11.0)	49.1 (10.9)
CES-D Score	8.8 (5.7)	7.1 (5.3)	8.6 (5.7)	7.1 (5.2)

Table shows % or mean (SD). APD = automated PD. In models adjusted for all variables listed in table above, plus country, patients with younger age, APD, shorter PD vintage, lower PCS, lower MCS, and higher CES-D score are more likely to consider "space taken up by PD supplies" as a disadvantage of PD; patients with younger age, female, lower PCS, lower MCS and higher CES-D score are more likely to consider "abdominal fullness" as a disadvantage of PD.

PDOPPS The Peritoneal Dialysis Outcomes and Practice Patterns Study



Support for the DOPPS Program (including CKDopps, DOPPS, and PDOPPS) is provided by Amgen (founding sponsor, since 1996), Kyowa Hakko Kirin (since 1999, in Japan), and Baxter Healthcare (since 2011). Additional support is provided for specific projects and/or countries by Amgen, AstraZeneca, Hexal AG, Janssen, Keryx, Proteon, Relypsa, Roche, Vifor Fresenius Renal Pharma, ERA-EDTA, Japanese Society for PD, Societies for Nephrology in Germany, Italy, and Spain. Public funding is provided by a number of institutions. Support for the DOPPS Program is provided without restrictions on publications. The DOPPS.org website has full details.

The DOPPS Program is coordinated by Arbor Research Collaborative for Health, Ann Arbor, MI USA.

The PDOPPS is an international prospective cohort study of peritoneal dialysis treatment and patient outcomes in **Australia, Canada, Colombia, Japan, New Zealand, South Korea, Thailand, the United Kingdom and the United States**. Data collection (beginning in 2014) is ongoing and will include up to 3 years of follow-up for > 7,000 patients in > 200 practices. Additional countries may join the study depending on funding and data availability. More details regarding study design can be found in Perl et al (2015) Perit Dial Int.

Summary / Conclusions

- Among the 17 aspects asked in the PQ, "receive treatment at home" was most commonly perceived as an advantage (95%), followed by "do not require accessing of blood" (88%, **Figure 1**).
- "Feeling full with PD fluid in abdomen" (43%) and "space taken up by PD supplies" (overall 33%, **Figure 1**), were regarded as the biggest disadvantages of PD treatment by patients, which was particularly regarded as a disadvantage by patients in UK (53%), Canada (41%), and US (37%), vs. 11-33% elsewhere (**Figure 2**).
- Patients who were most adversely affected by these two factors were younger, had a higher total prescribed dialysate volume, used APD as their modality, and had started PD more recently (**Table 1**).
- Although "able to travel more easily" was not *a priori* an expected disadvantage, it was the third most commonly cited disadvantage (**Figure 1**), suggesting a disconnect between the patient and physician perspectives.
- Overall, responses among PD patients with versus without prior treatment with hemodialysis were not dissimilar (data not shown).
- **Conclusion(s): Abdominal fullness and space taken up by PD supplies appear to be concerns for a substantial number of patients receiving PD.** Better understanding of the patient, treatment and regional variation associated with these concerns may provide insight into improving the patient experience of PD and allow for more informed dialysis modality education.