INTRODUCTION

Renal replacement therapy for patients with end-stage renal disease (ESRD) includes kidney transplantation and chronic dialysis. The 2009 US Renal Data System annual report revealed that in-center hemodialysis (HD) was used by >90% of dialysis patients. Peritoneal dialysis (PD), primarily a home-based, self-care therapy, was used by only 7.2% of patients, a marked decline from its 1982–1984 peak of 15% in the US. Decline in PD use is disturbing because PD provides greater patient autonomy, satisfaction and survival benefits at a lower annual cost than in-center HD. Discrepancy in use of PD vs. HD may be due to

1. Lack in nephrology fellowship training in PD:
   - 29% of US programs’ fellows were exposed to <5 PD patients. 2
   - 14% of the programs’ fellows spent <5% of their training time caring for PD patients. 2
   - 56% of nephrologists felt well trained and competent in the care of patients after completing nephrology fellowship training. 3
   - 83% of patients indicated that their physician influenced their treatment choices 4—thus, lack of exposure to PD during training can influence physician referral patterns and patients’ treatment choice as well.

2. Patient education about ESRD/PD therapies is inadequate. 6
   - 90% of medical directors of dialysis units provide ESRD education to their patients while only 50% of patients were educated on ESRD therapies. 5
   - 75% patients who started dialysis were not informed about PD. 6
   - 66% of incident dialysis patients were not offered the option of PD. 6

To achieve success in PD utilization, it is vital to integrate main stream education and training in PD to nephrology fellows, in addition to providing ERSD therapies’ education to new dialysis patients.

OBJECTIVES

Evaluate current nephrology fellowship training status regarding PD.

METHODS

Electronic self-report questionnaires administered via Survey Monkey to Nephrology fellowship training program directors during October 2010 – March 2011.

1. Names and email addresses of all US Nephrology fellowship training program directors obtained from American Society of Nephrology list serve.

Project protocol approved by SBU IRB.

Statistical analyses: Descriptive statistics (frequencies and proportions); Wilcoxon signed rank tests for comparisons.

RESULTS

<table>
<thead>
<tr>
<th>Location of responding nephrology fellowship training programs</th>
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</thead>
<tbody>
<tr>
<td><strong>US region</strong></td>
</tr>
<tr>
<td>Northeast</td>
</tr>
<tr>
<td>South</td>
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<tr>
<td>Midwest</td>
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<tr>
<td>West</td>
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<thead>
<tr>
<th>Hemodialysis and peritoneal dialysis training resources (faculty and available patients) for nephrology fellows (n = 78 responding Program Directors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD PD</td>
</tr>
<tr>
<td>No. of full time faculty members</td>
</tr>
<tr>
<td>Faculty / Fellow ratio</td>
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<tr>
<td>No. of adult patients</td>
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<tr>
<td>Patients / Fellow ratio</td>
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</tbody>
</table>

Percent of Program Directors indicating that they provide dialysis teaching in their nephrology and/or peritoneal dialysis to fellows for ≥ 2 years (responding Program Directors) (median (range))

- PD: 5% (3 – 26)
- HD: 33.0 (8 – 65)

Programs providing chronic dialysis training for fellows

- 98.7% of Program Directors responded that they provide chronic dialysis training for their fellows.

Outpatient chronic dialysis training for fellows at programs providing training:

- Provides continuity care only
- Provides block of time (rotation) only
- Provides block of time (rotation) and continuity care

Responding Program Directors’ estimates of training

<table>
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<tr>
<th>Block rotation</th>
<th>Continuity care</th>
<th>Block rotation and continuity care</th>
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</thead>
<tbody>
<tr>
<td>% of programs where fellows are assigned dialysis patients</td>
<td>% of programs where fellows are assigned dialysis patients</td>
<td>% of programs where fellows are 2 year tenure (median range)</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>0</td>
<td>80 (34 – 95)</td>
</tr>
<tr>
<td>Peritoneal</td>
<td>51</td>
<td>25 (5 – 66)</td>
</tr>
<tr>
<td>Both</td>
<td>95 (21)</td>
<td>62.1 (18)</td>
</tr>
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- Continuity care: median number of hemodialysis patients assigned fellows = 15 (range 5 – 35)
- vs. median number of peritoneal dialysis patients assigned fellows = 3 (range 1 – 4); p < 0.001

RESULTS CON’T

Adequacy of peritoneal dialysis training

- 87% of Program Directors believe that peritoneal dialysis training in the US is inadequate.
- Primary reasons Program Directors believe that PD training is inadequate:
  - Insufficient numbers of PD patients / lack of exposure to PD patients: 71.2%.
  - Lack of available training in PD / faculty not comfortable with PD: 20.3%.

Pre-end stage renal disease / chronic kidney disease patient education programs

- 80.3% of Program Directors indicated that they provide pre-end stage renal disease / chronic kidney disease education programs to patients.
- 66.7% of these Program Directors also reported that fellows do not participate in any pre-end stage renal disease / chronic kidney disease patient education programs.

SUMMARY / CONCLUSIONS

- Both number of training faculty and patients per fellow are significantly lower in PD than HD (median/faculty/ fellow 0.5 vs. 1.2, p < 0.001 and median patients/ fellows 5 vs. 37.5; p < 0.001)
- Number of hours of didactic teaching to fellows over 2 years training period in PD is significantly lower than that in HD (6 vs. 10 hrs; p < 0.001)
- Most Nephrology programs provide training in both dialysis modalities; however % training in PD is only 20% of total dialysis training.
- 76% of program directors feel that > 5% of PD training and 81% of program directors believe that > 5 PD patients/ fellows are adequate over 2 years’ training period.
- 87% of program directors believe that PD training for fellows is inadequate because of lack of trained faculty in PD and insufficient PD patient population.
- 67% of program directors report that fellows do not participate in ESRD/ chronic kidney disease education to patients.

Current nephrology fellowship training in PD in US is inadequate.

To enhance PD utilization, current faculty in training programs needs to be trained/retrained in PD so that they feel comfortable in training fellows in PD and providing care to PD patients. This can be achieved in part by faculty development workshops in PD.

The adequacy of PD training resources needs vigorous discussion and evaluation by the nephrology community. Minimum standards of PD training, for each nephrology fellow need to be established.

REFERENCES


FUNDING / SUPPORT

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