What influences patient choice of treatment modality at the pre-dialysis stage?

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Abstract

Background. There is little information on factors influencing patient choice of renal replacement modality (RRM) in the UK. Pre-dialysis education programmes have been associated with increased uptake of peritoneal dialysis (PD) in other countries but their relevance in informing patient choice within UK centres has not been extensively studied. In this study, we examined how patient choice of different treatment modalities [haemodialysis (HD), PD and conservative management (CM)] is influenced by personal and demographic parameters.

Methods. Questionnaires were sent to 242 pre-dialysis patients from a single centre. Patients were asked to rate factors affecting their treatment choice. Demographics, functional status, educational day attendance and Charlson index (CI) scores were also collected.

Results. One hundred and eighteen replies were received. Seventy per cent of patients had chosen HD, 20% PD and 10% had opted for CM. There was a clear association between age and modality choice. Mean age of patients choosing PD was 55 years compared to 68 years for HD and 84 years for CM ($P < 0.001$). Similarly, the degree of co-morbidity was linked with treatment choice, with patients choosing PD having a mean CI score of 4.1 compared to 5.8 among HD patients and 7.7 for CM ($P < 0.001$). Factors rated as important by all three groups were: the ability to cope, fitting modality with lifestyle, distance to centre and verbal and written information about modality. Conversely, factors rated as not important by all groups were: use of internet, religious beliefs and friends’ views. Using analysis of variance, there was a statistically significant variance between the HD and the PD group responses in the following factors: provision of written information ($P = 0.048$), fitting modality with lifestyle ($P = 0.025$), family/home/work circumstances ($P = 0.003$) and past medical history ($P = 0.018$). Fifty per cent of patients who chose PD attended a formal education day compared to 32.9% that chose HD and 0% that chose CM ($P = 0.003$). Patients who have had a social services assessment in the last 12 months or received private care services or disability allowance were more likely to choose CM.

Conclusions. This study highlights important factors influencing patient choice of end-stage renal disease treatment modality including CM. While some of these are non-modifiable, such as age and degree of co-morbidity, others draw attention to the importance of good information provision and pre-dialysis education in empowering socially able patients to choose self-care therapies. Furthermore, the overwhelming association of having a strong social support network and being functionally able with choosing PD emphasizes the need for assisted PD.

Keywords: conservative management; haemodialysis; patient choice; peritoneal dialysis; pre-dialysis; renal replacement modality

Introduction

What makes patients who have advanced kidney disease and need dialysis choose one modality of dialysis over another? Is it because of the information presented to them or is it due to other reasons? In the last decade, there has been a growing interest in the factors influencing renal replacement modality (RRM) selection among chronic kidney disease (CKD) patients.

Studies comparing peritoneal dialysis (PD) and haemodialysis (HD) have shown that overall patient survival is similar [1], and therefore, in many cases, it is patient choice that determines modality. The UK National Services Framework for renal services stresses that patients should have access to information that enables them . . . to make informed decisions . . . to achieve the best possible quality of life [2]. Self-care modalities, which include PD, have been associated with improved quality of life and cost saving but remain relatively underused in the UK and USA and, if anything, have steadily declined in use [3–7]. HD resources meanwhile remain overstretched due to an ever-increasing demand.

Various epidemiological, interview and questionnaire-based studies have provided information on factors associated with RRM choice. Caucasian race, younger age and
fewer co-morbid conditions correlate with selection of PD as do flexibility of schedule, convenience of performing dialysis at home, preservation of lifestyle and increasing distance from the base unit [8, 9]. In contrast, wanting a planned schedule of dialysis and letting others take charge have been cited in support of selecting HD [10–12].

A recent systematic review further highlighted the importance of gaining knowledge of the options and weighing the alternatives particularly in relation to maintaining lifestyle and the status quo [13]. In terms of socio-economic factors, being married, employed, living with someone else and being educationally more accomplished has been linked with greater uptake of PD [9] and finally, pre-dialysis education programmes in other countries have been associated with an increased uptake of self-care modalities [14].

Existing studies come mainly from North America and continental Europe and have focused on patients already established on dialysis. There is little information on factors influencing patient choice of RRM at the pre-dialysis stage in the UK. Furthermore, no studies have explored the patient-related factors associated with choosing conservative management (CM) in the CKD population.

The aim of this study was to establish the demographic, social and personal factors, which influence patient choice of end-stage renal disease (ESRD) treatment modality (HD, PD and CM) in a single renal centre in the UK, and to assess the effect of pre-dialysis education on modality selection.

Materials and methods

Study design

Questionnaires were posted to 242 incident pre-dialysis patients who had already made a modality choice following the standard education format at our centre (see below). We included patients referred for education with irreversible CKD with a steady deterioration in glomerular filtration rate (GFR) (mean GFR 17.5 ± 5.01 SD). All were offered a choice of modality irrespective of any potential contraindications they may have had for any given modality.

Pre-dialysis education at our centre

All patients with irreversible CKD with an estimated glomerular filtration rate of ≤25 mL/min at our centre are referred to the pre-dialysis clinic where they meet the kidney failure support team. A home visit is arranged (interpreter present if needed and family advised to be present). Education is provided in visual, verbal and written formats (leaflets, booklets and DVDs). All modalities are described in detail and for patients over the age of 75 years, information on CM is also given. Visits typically last 2–4 h and patients are left with contact details and invited to get in touch if they have additional queries. Further education is offered at home if the patient is still uncertain. Invitations are extended to either the HD or PD unit to meet patients on treatment and nurses who carry out the treatment. An offer is made to meet any expert patients who are part of the hospital expert patient programme. A formal education day also takes place every 3 months where all patients are invited with their family. This is a half-day workshop whereby presentations and information are given pertaining to lifestyle and dietary modifications required for each therapy. All patients are seen within 4 weeks to discuss modality choice and are encouraged to come to a decision within 3 months of the education being delivered. The education format used in this study did not differ from the standard education delivered at our centre.

Questionnaire

The questionnaire focused on the potential influence of 20 factors affecting modality choice and respondents were asked to rate each factor from 0 to 5 according to their importance in determining their choice of treatment modality (0—not applicable, 1—not important at all, 3—somewhat important, 4—important, 5—extremely important).

Demographic, social and functional status data were also collected in the form of marital status, religious belief, ethnic origin, education, employment, spoken language, housing circumstances, number of people in household, independence in carrying out shopping/cleaning, recent social services assessment, receipt of private home care services or disability, living or attendance allowance. Attendance at the patient education day was also logged (Copy of questionnaire available as supplementary data online). Charlson index (CI) co-morbidity scores were collected retrospectively using the electronic hospital records.

Statistics

Statistical analysis was conducted using SPSS. The following values were used for the purposes of analysis (0—not applicable, 0—do not know, 1—not important at all, 2—somewhat important, 3—important, 4—extremely important). Age, CI, GFR, level of education and patient responses on the 20 factors influencing modality choice were analysed using analysis of variance. The Welch statistic was used due to unequal sample sizes and variances. The Games–Howell post hoc test was used to adjust for multiple comparisons. Categorical variables were analysed via 2 × 3 cross-tabulating and using the chi-square test. For multiple comparisons between the three modality groups, 2 × 2 tables were constructed using the Bonferroni correction (P-value = 0.05/3 = 0.0166) for adjustment.

Results

One hundred and eighteen replies were received from the 242 questionnaires sent (48.7% response rate). Seventy-seven per cent of all patients felt that they had received adequate information to make their choice. Interestingly, 63% of patients felt that their chosen modality was medically superior. Eight-two patients (70% of patients that replied) had chosen HD, 24 patients (20%) chose PD, while 12 patients (10%) had opted for CM. There was a significant difference in mean age across the three modality groups. Mean age of patients was 55.4 years for those that had chosen PD, 68.1 for HD and 84.1 for those that chose CM. This association was highly significant (P < 0.001). A similar effect was observed with co-morbidity scores. Patients that chose PD had the lowest mean CI score (4.1), followed by HD (5.8) and finally by CM (7.7). Again, the relationship between CI score and modality selection was highly significant (P < 0.001). There were no significant differences observed among the three groups in terms of gender or ethnicity (Table 1).

Personal factors

Factors identified as important by all treatment modality groups were: ability to cope with modality (mean response score 2.15), modality fitting with lifestyle (2.54), distance to centre (2.36), verbal/oral information on modality (2.60) and written information on modality (2.08). Conversely, factors highlighted as not important by all three groups were: use of internet (mean response score 0.66), religious beliefs (0.87), friends’ views (0.92), knowing someone on the modality (0.65) and previous experience on the modality (0.35).

Several factors were found to differentiate patient choice of PD from HD (Table 2). Patients that chose PD scored the following factors significantly higher than patients choosing HD: written information on modality (P = 0.048), modality fitting with lifestyle (P = 0.025) and family/home/work circumstances (P = 0.003). Conversely, patients choosing HD...
Table 1. Characteristics and demographics of study population

<table>
<thead>
<tr>
<th>Factor</th>
<th>HD mean response</th>
<th>PD mean response</th>
<th>CM mean response</th>
<th>P-value</th>
<th>HD versus PD, P-value</th>
<th>HD versus CM, P-value</th>
<th>PD versus CM, P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) ± SD</td>
<td>68.1 ± 14.2</td>
<td>55.4 ± 13.7</td>
<td>84.1 ± 6.5</td>
<td>&lt;0.001*</td>
<td>0.001*</td>
<td>&lt;0.001*</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Gender</td>
<td>M: 62%, F: 38%</td>
<td>M: 54%, F: 46%</td>
<td>M: 50%, F: 50%</td>
<td></td>
<td>0.614</td>
<td>0.479</td>
<td>0.419</td>
</tr>
<tr>
<td>CI score ± SD</td>
<td>5.8 ± 2.1</td>
<td>4.1 ± 1.9</td>
<td>7.7 ± 1.3</td>
<td>&lt;0.001*</td>
<td>0.002*</td>
<td>0.001*</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>GFR at time of modality selection, mean ± SD</td>
<td>17.53 ± 4.94</td>
<td>17.55 ± 4.57</td>
<td>17.52 ± 6.5</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Attendance at education day</td>
<td>33.7%</td>
<td>50.0%</td>
<td>0%</td>
<td>0.011*</td>
<td>0.149</td>
<td>0.017</td>
<td>0.003*</td>
</tr>
<tr>
<td>Marital status (% married)</td>
<td>53.8%</td>
<td>95.7%</td>
<td>41.7%</td>
<td>&lt;0.001*</td>
<td>&lt;0.001</td>
<td>0.435</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ethnic origin (% Caucasian)</td>
<td>80.5%</td>
<td>75.0%</td>
<td>75.0%</td>
<td>0.800</td>
<td>0.561</td>
<td>0.658</td>
<td>1.000</td>
</tr>
<tr>
<td>Level of education (mean)</td>
<td>1.8</td>
<td>2.5</td>
<td>2.6</td>
<td></td>
<td>0.175</td>
<td>0.201</td>
<td>0.482</td>
</tr>
<tr>
<td>Employment (% employed or studying)</td>
<td>11.5%</td>
<td>33.3%</td>
<td>0%</td>
<td>0.015*</td>
<td>0.016*</td>
<td>0.235</td>
<td>0.030</td>
</tr>
<tr>
<td>Living arrangements (% living alone)</td>
<td>30.5%</td>
<td>0%</td>
<td>50.0%</td>
<td>0.003*</td>
<td>0.003*</td>
<td>0.189</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

*aSignificant P-values (in bold) where analysis of variance or 2 × 2 chi-square test was used—threshold for statistical significance P < 0.05.

*bSignificant P-values (in bold) where 2 × 2 chi-square test was used—threshold for statistical significance P < 0.017 (adjusted for multiple comparisons by Bonferroni method).

*cScale of 0–5: 0 = never been to school, 1 = primary school, 2 = O levels, 3 = A levels, 4 = College diploma and 5 = University degree.

Table 2. Mean responses across modality groups and statistical analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>HD mean response</th>
<th>PD mean response</th>
<th>CM mean response</th>
<th>P-value</th>
<th>HD versus PD, P-value</th>
<th>HD versus CM, P-value</th>
<th>PD versus CM, P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home visit by kidney failure support team</td>
<td>2.17</td>
<td>2.71</td>
<td>1.50</td>
<td>0.106</td>
<td>0.230</td>
<td>0.491</td>
<td>0.144</td>
</tr>
<tr>
<td>Audiovisual information on modality</td>
<td>1.24</td>
<td>1.92</td>
<td>1.17</td>
<td>0.148</td>
<td>0.126</td>
<td>0.989</td>
<td>0.418</td>
</tr>
<tr>
<td>Written information on modality</td>
<td>2.01</td>
<td>2.67</td>
<td>1.42</td>
<td>0.023*</td>
<td>0.048*</td>
<td>0.496</td>
<td>0.075</td>
</tr>
<tr>
<td>Verbal/oral information on modality</td>
<td>2.57</td>
<td>3.00</td>
<td>2.00</td>
<td>0.082</td>
<td>0.178</td>
<td>0.528</td>
<td>0.171</td>
</tr>
<tr>
<td>Education day</td>
<td>1.43</td>
<td>2.08</td>
<td>0.67</td>
<td>0.033*</td>
<td>0.253</td>
<td>0.170</td>
<td>0.023*</td>
</tr>
<tr>
<td>Distance to centre</td>
<td>2.26</td>
<td>2.42</td>
<td>2.92</td>
<td>0.486</td>
<td>0.895</td>
<td>0.467</td>
<td>0.686</td>
</tr>
<tr>
<td>Family views</td>
<td>1.88</td>
<td>2.13</td>
<td>2.08</td>
<td>0.750</td>
<td>0.747</td>
<td>0.931</td>
<td>0.997</td>
</tr>
<tr>
<td>Friends’ views</td>
<td>0.87</td>
<td>0.92</td>
<td>1.25</td>
<td>0.706</td>
<td>0.980</td>
<td>0.680</td>
<td>0.773</td>
</tr>
<tr>
<td>Religious beliefs</td>
<td>0.90</td>
<td>0.58</td>
<td>1.25</td>
<td>0.191</td>
<td>0.366</td>
<td>0.602</td>
<td>0.211</td>
</tr>
<tr>
<td>Modality fitting with lifestyle</td>
<td>2.41</td>
<td>3.17</td>
<td>2.17</td>
<td>0.030*</td>
<td>0.025*</td>
<td>0.894</td>
<td>0.213</td>
</tr>
<tr>
<td>Ability to cope with modality</td>
<td>1.94</td>
<td>2.63</td>
<td>2.67</td>
<td>0.093</td>
<td>0.099</td>
<td>0.367</td>
<td>0.997</td>
</tr>
<tr>
<td>Size of house</td>
<td>1.54</td>
<td>1.38</td>
<td>0.92</td>
<td>0.284</td>
<td>0.893</td>
<td>0.257</td>
<td>0.583</td>
</tr>
<tr>
<td>Body image</td>
<td>1.16</td>
<td>1.46</td>
<td>1.08</td>
<td>0.533</td>
<td>0.539</td>
<td>0.982</td>
<td>0.681</td>
</tr>
<tr>
<td>Physical ability</td>
<td>1.38</td>
<td>1.13</td>
<td>2.58</td>
<td>0.062</td>
<td>0.719</td>
<td>0.104</td>
<td>0.055</td>
</tr>
<tr>
<td>Past medical history</td>
<td>1.63</td>
<td>0.71</td>
<td>1.33</td>
<td>0.032*</td>
<td>0.018*</td>
<td>0.854</td>
<td>0.551</td>
</tr>
<tr>
<td>Know someone on the modality</td>
<td>0.76</td>
<td>0.54</td>
<td>0.17</td>
<td>0.046*</td>
<td>0.724</td>
<td>0.036*</td>
<td>0.400</td>
</tr>
<tr>
<td>Family/home/work circumstances</td>
<td>1.68</td>
<td>2.75</td>
<td>1.83</td>
<td>0.008*</td>
<td>0.003*</td>
<td>0.958</td>
<td>0.263</td>
</tr>
<tr>
<td>Previous experience on the modality</td>
<td>0.35</td>
<td>0.33</td>
<td>0.33</td>
<td>0.996</td>
<td>0.997</td>
<td>0.998</td>
<td>1.000</td>
</tr>
<tr>
<td>Use of internet</td>
<td>0.56</td>
<td>1.21</td>
<td>0.25</td>
<td>0.061</td>
<td>0.209</td>
<td>0.347</td>
<td>0.053</td>
</tr>
<tr>
<td>Visit to renal unit</td>
<td>1.82</td>
<td>2.17</td>
<td>0.42</td>
<td>0.001*</td>
<td>0.621</td>
<td>0.001*</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

*aStatistically significant values are indicated in bold (threshold for statistical significance P < 0.05).

scored the ‘past medical history’ factor significantly higher than patients opting for PD (P = 0.018). There was a trend for patients choosing PD to score higher on the factors: verbal/oral information on modality, ability to cope with modality and use of internet compared to patients that opted for HD or CM although statistical significance was not reached. Comparing PD and CM, patients choosing CM found the education day (P = 0.023) and the visit to the renal unit (P = 0.001) significantly less important in informing their choice compared to patients opting for PD. Patients that had selected HD as treatment modality scored ‘knowing someone on the modality’ (P = 0.036) and ‘visit to renal unit’ (P = 0.001) significantly higher than CM patients. Finally, patients opting for CM scored ‘physical ability’ considerably higher (P = 0.058) in influencing their choice compared to patients that selected PD although this result was not statistically significant (Table 2).

Education day

A greater proportion of patients that ended up choosing PD attended the education day compared to patients that chose HD (50 versus 33.7%). None of the patients that chose CM had attended an education day (Table 1). The difference between the three groups was statistically significant (P = 0.011). Although there was a trend for a higher proportion of patients that chose PD to have attended the education day, and the education day as a personal factor (Table 2) was also scored higher by patients that chose PD compared to HD (2.08 versus 1.43), these results did not reach statistical significance.
**Demographic factors**

Being married (P < 0.001), being employed or a student (P = 0.015) and living with another person (P = 0.003) were the three demographic factors that exhibited a statistically significant difference between the three groups and, in particular, when comparing HD versus PD and PD versus CM. There was a trend for the more highly educated to select PD or CM instead of HD but this did not reach statistical significance (Table 1).

**Functional status**

Finally, the functional status of patients appeared to differentiate patient selection of CM from PD or HD. Having had a social services assessment in the last 12 months (P = 0.003), receiving private care services for activities of daily living (P = 0.004) and being in receipt of disability or living allowance (P = 0.023) were significantly more prevalent in the CM group particularly when compared to patients that chose PD (Table 3).

**Discussion**

Patient involvement in making health decisions is becoming a central component of health care provision around the world [15]. Research has suggested that being given a choice, as long as it is meaningful, enhances patient sense of autonomy and self-efficacy [16]. Furthermore, a recent meta-analysis on decision aids (educational material focusing on options and outcomes for the purpose of preparing people for decision making) showed that decision aids compared to usual care helped people feel more informed about their options, more comfortable about their choices and provides a clearer picture regarding personal values affecting their choices [17].

In this study, we set out to investigate the demographic, personal and functional parameters that influence RRM choice among a cohort of pre-dialysis patients. Factors influencing patient choice can be broken down to modifiable and non-modifiable ones.

**Modifiable factors**

Provision of information was clearly associated with an increased uptake of PD. This reflects that given the right quantity and quality of information, some patients will choose PD. Provision of adequate and good quality information should therefore form a strong basis of how we counsel patients. Recent studies, however, have shown that the written information provided by most renal units and charities is very difficult to understand [18, 19], therefore, there is large scope for improvement in this area.

The timing of providing the information is also crucial in that there should be sufficient time for patients to take in information, weigh the alternatives and come up with a decision before symptoms of ESRD start to manifest and well before any definitive surgery takes place. It has been recently suggested that education should commence when GFR drops <30 mL/min, as opposed to <20 mL/min [13]. Furthermore, the same authors showed in their systematic review of qualitative studies that maintaining the status quo represents a major theme central to treatment choice and may explain why patients often remain on their initial therapy (e.g. HD) despite potential advantages of other treatments such as self-care modalities.

Interestingly, opinions of patients established on an RRM did not seem to be important in influencing patient choice in our study. A great part of RRM education is based on meeting patients already on the various treatments (i.e. employing patient narrative). There is recent evidence suggesting that patient narrative may promote heuristic rather than systematic decision making thereby biasing an individual’s decision-making process [20].

The value of the education day as a factor was scored higher by the PD group. Similarly, a greater proportion of patients that chose PD compared to patients that chose HD actually attended an education day, although this difference did not reach statistical significance. Nevertheless, these results do suggest that the education day may be of value in influencing patient choice and perhaps directing willing patients to PD. Also, it suggests that the education day was perceived to be valuable by those patients that chose PD. Other studies have also shown that structured pre-dialysis education programmes are associated with a high uptake of self-care treatment modalities [14] and therefore should form an integral part of any dialysis-counselling programme.

The treatment fitting in with patient lifestyle was a major determinant of patient choice of PD. Another way of interpreting this result is that patients who value preserving their lifestyle by choosing a treatment that fits best with it, tend to choose PD. Indeed, a study from Canada showed that patients who identify freedom and lifestyle advantages of self-care modalities are more likely to choose such treatment modalities. Patients who received a multifaceted

**Table 3. Analysis of functional status**

<table>
<thead>
<tr>
<th></th>
<th>HD</th>
<th>PD</th>
<th>CM</th>
<th>P-value</th>
<th>HD versus PD, P-value</th>
<th>HD versus CM, P-value</th>
<th>PD versus CM, P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive practical assistance from family/friends for ADL</td>
<td>58.5%</td>
<td>54.2%</td>
<td>75.0%</td>
<td>0.608</td>
<td>0.874</td>
<td>0.318</td>
<td>0.443</td>
</tr>
<tr>
<td>Have had social services assessment in last 12 months</td>
<td>26.8%</td>
<td>42.2%</td>
<td>58.3%</td>
<td>0.003*</td>
<td>0.017</td>
<td>0.044</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Receive private care services for ADL</td>
<td>9.8%</td>
<td>42.2%</td>
<td>41.7%</td>
<td>0.004*</td>
<td>0.416</td>
<td>0.004</td>
<td>0.007*</td>
</tr>
<tr>
<td>Receive disability or living allowance</td>
<td>48.8%</td>
<td>25.0%</td>
<td>75.0%</td>
<td>0.023*</td>
<td>0.046</td>
<td>0.125</td>
<td>0.007*</td>
</tr>
</tbody>
</table>

*ADL = activities of daily living.

*Significant P-values (in bold) where 2 × 3 chi-square test was used—threshold for statistical significance P < 0.05.

*Significant P-values (in bold) where 2 × 2 chi-square test was used—threshold for statistical significance P < 0.017 (adjusted for multiple comparisons by Bonferroni method).
educational intervention in that study were more likely to perceive freedom and control as advantages thereby increasing the odds of them selecting a self-care modality [11]. Therefore, patients that perceive preservation of lifestyle as a benefit are more likely to choose self-care modalities and this needs to be factored in the way we counsel patients.

Patients that chose PD rated the ‘ability to cope’ factor higher than those that chose HD suggesting that their choice was influenced by the perception that they can cope with this type of modality. Conversely, HD or CM patients may be reluctant to choose PD or indeed any form of dialysis because of a perceived inability to cope. Therefore, this needs to be carefully examined during counselling in that it may only reflect a patient perception rather than an actual physical or social inability to cope.

Non-modifiable factors

Younger age and less co-morbid conditions were clearly associated with PD selection. Interestingly, ethnicity did not appear to influence RRM choice contrary to previous findings in the literature [8].

Our results suggest that PD is more likely to be undertaken by people who are married, living with another person and are in employment or education. This suggests that patients that live alone may not choose PD purely due to lack of support. Also, if having another person in the household is such an important parameter in being able to perform PD, 69.5% of people that chose HD but do not live alone (Table 1) might have chosen PD if some of the other parameters described above were better fulfilled (e.g. education day attendance and provision of information).

Patients with a lesser degree of function were more likely to opt for CM. Furthermore, physical ability of performing dialysis was scored highly by CM patients compared to HD and PD. Despite not reaching statistical significance, this is likely to be an important factor in determining patient selection of CM. These results most certainly represent a marker of increased co-morbidity and lesser functional ability among this group of patients. Nevertheless, they also account for barriers that restrict patient choice of treatment modality. The recent ‘Specification for the Commissioning of Peritoneal Dialysis Pathway’ document [21] highlights the importance of assisted PD in delivering a renal service that offers real choice to individuals thereby increasing the proportion of patients having home care therapies.

Social barriers to self-care PD may indeed be overcome by the provision of home care assistance in the form of assisted PD [22, 23]. Oliver et al. showed that in regions where home care assistance was available, patient eligibility for PD was 80% compared to 65% in regions without home care (P = 0.01). Furthermore, the percentage of patients that chose PD when offered a free choice was essentially the same in both regions [22].

The results pertaining to non-modifiable factors enable us to identify a patient group that is likely to be agreeable to self-care modalities. This allows for intensifying efforts to ensure that the majority of these patients are given ample information and time to choose a self-care modality if they so wish. On the other hand, there will be patients that will value lifestyle preservation and may indeed choose a self-care modality if they had a stronger social support network or were functionally more able. Therefore, some of these factors may actually indeed be modifiable.

Limitations

An important limitation of this study is that patients with potential contraindications to a particular RRM were not excluded from the initial study group. This may have led to the relatively low uptake of PD compared to other studies [24, 25] and introduced bias in some of the patient responses with regards to the personal factors affecting RRM choice. Indeed, this is reflected in the ‘past medical history’ item of the questionnaire. This was more likely to affect choice in the HD group indicating a potential contraindication or perceived medical barrier by the patient to PD. By not excluding patients with potential contraindications or less functional ability, we aimed to capture true patient perception of their modality choice as well as examine characteristics such as functional limitation, social circumstances and degree of co-morbidity as factors that influence RRM choice. Furthermore, we did not follow-up patients to establish the mode of dialysis they were ultimately commenced on although by the end of study analysis 24% of patients that replied had undergone access surgery in keeping with their chosen RRM.

Conclusions

This study highlights important factors influencing patient choice of ESRD treatment modality including CM. While some of these are non-modifiable, such as age and degree of co-morbidity, others draw attention to the importance of good information provision and pre-dialysis education in empowering socially able patients to choose self-care therapies.

The impact of this study on shaping future dialysis education programmes lies in exposing the key ingredients in facilitating PD choice. These can be summarized as follows: information provision that is of good quality, employs written and easy to understand information, includes an education day, allows ample time for decision making in the context of disease progression and focuses on important personal factors that have been shown to influence patient decision making such as lifestyle preservation and ability to cope in order to facilitate patients to choose self-care modalities if they so wish. Furthermore, the overwhelming association of having a strong social support network and being functionally able, with choosing PD, emphasizes the need for assisted PD.

We hope to incorporate these changes into our pre-dialysis education to increase the uptake of self-care modalities in the future.

Supplementary data

Supplementary data are available online at http://ndt.oxfordjournals.org.
Patient choice of RRM

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References


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