TITLE: In-Centre Self-Hemodialysis for Adult Patients with Renal Failure: Clinical and Cost-Effectiveness, Safety, and Guidelines

DATE: 26 January 2016

RESEARCH QUESTIONS

1. What is the clinical effectiveness of in-centre self-hemodialysis for adult patients with renal failure requiring hemodialysis?

2. What are the clinical benefits and harms associated with in-centre self-hemodialysis for adult patients with renal failure requiring hemodialysis?

3. What is the cost-effectiveness of in-centre self-hemodialysis for adult patients with renal failure requiring hemodialysis?

4. What are the evidence-based guidelines associated with in-centre self-hemodialysis for adult patients with renal failure requiring hemodialysis?

KEY FINDINGS

One health technology assessment and one non-randomized study were identified regarding in-center patient self-hemodialysis for adult patients with renal failure.

METHODS

A limited literature search was conducted on key resources including Ovid Medline, PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. The search was limited to English language documents published between Jan 1, 2011 and Jan 20, 2016. Internet links were provided, where available.
The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

**SELECTION CRITERIA**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

### Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult patients with renal failure requiring hemodialysis</th>
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<tbody>
<tr>
<td>Intervention</td>
<td>In-centre patient self-hemodialysis</td>
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<tr>
<td>Comparators</td>
<td>Nurse or clinician provided hemodialysis;</td>
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<td></td>
<td>Nocturnal in-home and nocturnal in-centre hemodialysis;</td>
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<tr>
<td></td>
<td>No comparator</td>
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<tr>
<td>Outcomes</td>
<td>Clinical effectiveness (e.g., kidney clearance rates)</td>
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<td></td>
<td>Safety (clinical benefit and harms, e.g., but not limited to, infections rates, hypotensive episodes);</td>
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<td>Cost-effectiveness;</td>
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<td></td>
<td>Guidelines (e.g., criteria for patient selection, education and training required by patients, staffing ratios)</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines</td>
</tr>
</tbody>
</table>

**RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One health technology assessment and one non-randomized study were identified regarding in-center patient self-hemodialysis for adult patients with renal failure. No systematic reviews, meta-analyses, randomized controlled trials, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

**OVERALL SUMMARY OF FINDINGS**

One health technology assessment compared a hemodialysis hospital group with peritoneal dialysis at home. No significant differences in mortality, quality of life, or infections between the groups were identified, while patients who were treated by hemodialysis in the hospital had fewer hospitalizations per year than patients who participated in the peritoneal dialysis at home. The authors concluded that all dialysis modalities were almost equally effective and they suggested that hemodialysis at home was the most effective and cost-effective method. No specific results for in-centre self-hemodialysis were provided in the abstract.
One non-randomized study² examined the implementation of the first self-care hemodialysis program in a hospital in China. The authors concluded that self-care hemodialysis is a feasible and safe modality for hemodialysis and observed that self-care hemodialysis “promotes rehabilitation, increases self-esteem, and improves health-related quality of life.”
REFERENCES SUMMARIZED

Health Technology Assessments


Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Economic Evaluations
No literature identified.

Guidelines and Recommendations
No literature identified.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies

Qualitative Studies


Review Articles


Additional References


