Cardiac Rehabilitation Home Program: An Alternative Model of Care

Presentation Category: Organizational Innovation

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Outline

- Purpose of program
- Background/Relevance
- Toronto Rehab’s Home Program
- Observations/Outcomes
- Conclusions
- Implications
Cardiac Rehabilitation Home Program

Purpose

- To increase **accessibility** and **access** to a cardiac rehabilitation program for persons recovering from cardiac events who are currently **under-served** by a facility based model
Goal of Cardiac Rehabilitation (CR)

- “The sum total of all interventions, physiological and behavioural, designed to favourably modify an individual's lifestyle and enhance adherence and compliance with long-term behaviours compatible with minimizing disease progression.”
Core Elements of CR

- Patient referral
- Patient assessment
- Exercise training and progression
- Lifestyle and risk factor modification
- Nutritional counselling
- Psychosocial counselling

- Risk factor counselling and management
- Patient education programs
- Program duration from 3 months to 12 months

CACR - Canadian Guidelines for Cardiac Rehabilitation and Cardiovascular Disease Prevention
Benefits of CR

- 20-25% improvement in functional capacity
- 24% reduction in all cause mortality
- 25% reduction in cardiovascular mortality
- Enhanced quality of life

Yates et al 2007
The Need For an Alternative Model

-The Literature-

- CR services are underutilized*
- Low rates of participation in CR are reported*
- Adherence/Drop-outs/With-drawls
  - Factors associated**
    - Older patient
    - Smokers, physically inactive
    - Women
    - Unmarried
    - Unemployed, low socioeconomic
    - Non English speaking, non car drivers
    - Distance from program

*Yates et al 2007; *CCN Pilot Project 2002; **Worcester et al 2004
The Need for An Alternative Model

- Toronto Rehab -

- Similar data from our own program
- 70% of participants complete the program
- 18% withdraw for non medical reasons
- Factors that predict withdrawal
- Differences exist regarding withdrawal and participation between men and women
Cardiac Rehab Home Program
An Alternative Model of Care

- Intervention to improve both uptake and adherence*
- Produces comparable outcomes to traditional on-site programs**
- Recommendation from the CCN CR Pilot Project in order to help increase access to CR***
- Improves access for local and rural patients

Toronto Rehab’s
Opportunity for Innovation

- Patient preference
- Opportunity to re-deploy resources to more intensive on-site programs for more complex patients
- Opportunity to increase our referral base and reach more people
- Patients at high risk for discontinuing the program or for poor attendance have the opportunity to experience positive outcomes from CR
Toronto Rehab’s Home Program

- Referral
- 6-month program
- Identification
- Case managed coaching model
- Assessment
- Exercise trial

- Telephone consultations
- Risk factor modification
- Education
- Re-assessment
- Technology
- Team Rounds
### Observations of Patients Enrolled

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled (n)</td>
<td>82</td>
</tr>
<tr>
<td>Graduated (n)</td>
<td>23</td>
</tr>
<tr>
<td>Drop Outs (n)</td>
<td>17</td>
</tr>
<tr>
<td>Average Age (years)</td>
<td>56 (range: 24-85)</td>
</tr>
<tr>
<td>Male/Female</td>
<td>66/16</td>
</tr>
<tr>
<td>Access to Computer Technology (%)</td>
<td>79</td>
</tr>
</tbody>
</table>
Observations of Patients Enrolled (n=82)

Reasons for Home Program

<table>
<thead>
<tr>
<th>Reason</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>40</td>
</tr>
<tr>
<td>Distance to centre</td>
<td>21</td>
</tr>
<tr>
<td>Transportation</td>
<td>8</td>
</tr>
<tr>
<td>Patient Choice</td>
<td>5</td>
</tr>
<tr>
<td>Child Care</td>
<td>3</td>
</tr>
<tr>
<td>Mobility Issues</td>
<td>3</td>
</tr>
<tr>
<td>Group Anxiety</td>
<td>2</td>
</tr>
</tbody>
</table>
Observations From Graduates

Average $V_0^2$ (ml/kg/min)
n=19

21.6  27

Initial V02  6 month V02
Observations
From Graduates

Average Weight (Kg)
n=19

- Initial Weight: 79
- 6 month Weight: 78.8
Average Waist Measurement (cm)

Observations From Graduates

n=19

Initial Waist: 94.8
6 month Waist: 93.3

Toronto Rehab
Everything Humanly Possible
Observations From Graduates

Average Depression Score (CES-D)
n=19

Depressed = CES-D > 16

CES-D: Centre for Epidemiologic Studies-Depression Scale
## Observations From Graduates (n=19)

<table>
<thead>
<tr>
<th>Service</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemetry Monitoring</td>
<td>2 patients</td>
</tr>
<tr>
<td>Onsite Psychosocial Consultation</td>
<td>3 patients</td>
</tr>
<tr>
<td>Onsite Nutrition Consultation</td>
<td>3 patients</td>
</tr>
<tr>
<td>Average length of telephone consults</td>
<td>17 minutes</td>
</tr>
<tr>
<td>Adherence to Scheduled Calls</td>
<td>89%</td>
</tr>
<tr>
<td>Adherence to Education Modules</td>
<td>79%</td>
</tr>
<tr>
<td>Telemetry Monitoring</td>
<td>2 patients</td>
</tr>
</tbody>
</table>
Evaluation of Patient Satisfaction

- 14 questions on a Likert Scale
- 2 questions regarding lifestyle questions
- Open forum for comments/suggestions
  - “regular communication”
  - “encouragement”
  - “support”
  - “motivation”
Conclusions

- Toronto Rehab’s Cardiac Home Program Model
  - Improves functional capacity
  - Offers compliance enhancing components
  - Increases accessibility to CR
Implications

- Clinicians
  - Coaching skills
  - Assessment skills

- Research
  - Standardized approach
  - Guidelines for home programming

- Policy/Management
  - Cost effective
  - Service to underserved cardiac population
  - Collaboration with hospitals who do not provide cardiac rehabilitation
References


