Early Cognitive Rehabilitation in Acute Care

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Cognitive Rehabilitation is defined as a service of providing therapeutic cognitive activities to improve cognitive functioning and ADL performance and to teach compensation patterns for coping with impaired neurological systems."\(^1\)
St. Michael’s Hospital

• A teaching and research hospital in downtown Toronto.
• Fully affiliated with the University of Toronto.
• Level 1 trauma centre and 1 of 11 Ontario neurosurgical centres.
• Combined trauma and neurosurgical unit.
• In 2015, 438 of 1172 trauma patients admitted to our unit had at least one injury to the head.
Development of a Cognitive Group

Assist in patient flow by:

- Increasing activity tolerance.
- Building routine.
- Treating cognitive deficits early in recovery.
- Demonstrating rehab potential for external partners.
Best Practice in Cognitive Rehab

• Evidence supports early group intervention in cognitive rehabilitation\textsuperscript{2,3}.
• Attention training, visual-spatial training, language based intervention\textsuperscript{4}, memory aids and problem solving strategies\textsuperscript{5} are most effective.
• Metacognitive training\textsuperscript{5}:
  • Generalizes to real world tasks.
  • Facilitates learning across alternate domains.
  • Useful in the remediation of executive function.
Inclusion Criteria

- Rancho Los Amigos scale of 5 or greater.
- Demonstration of new learning and insight.
- Activity tolerance of 30-45 minutes.
- The anticipated need for ABI rehabilitation.
Exclusion Criteria

- Delirium or acute psychiatric conditions.
- Responsive behaviours (e.g. wandering, verbal/physical aggression).
- Other neurosurgical conditions causing cognitive impairment (e.g. brain tumour).
Group Structure

- Small group format of 2-3 participants.
- Facilitated by the occupational therapist assistant.
- Held in a quiet space.
- 4 activity categories:
  - Memory, attention, visuospatial, executive function.
- 2 levels of difficulty.
- Individualized activities addressing participants interests and strengths.
Early Cognitive Rehab in Acute Care

Content

Financial Management

In front of you there is:

- Your current bank statement
- Two blank cheques
- Your utility bill (hydro)
- Your phone bill

Please do the following:

1. Write a cheque to pay your phone bill from your chequing account.
2. Write a cheque to pay your utility bill from your chequing account.
3. Calculate the total amount you now have left in your chequing account.
4. Decide whether you have enough money in your chequing account to pay for a train ticket that costs $110.00.

TRUST BANK
Statement of Accounts

PERSONAL BANKING

<table>
<thead>
<tr>
<th>Account</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUST EVERYDAY CHEQUING ACCOUNT - 12345678900</td>
<td>$1433.15</td>
</tr>
<tr>
<td>TRUST RAINY DAY SAVINGS ACCOUNT -12345678900</td>
<td>$741.52</td>
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</table>

INVESTMENTS

<table>
<thead>
<tr>
<th>Account</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.I.C. INVESTMENT ACCOUNT - 98765432100</td>
<td>$2897.93</td>
</tr>
<tr>
<td>MUTUAL FUND RSP ACCOUNT - 98765123400</td>
<td>$5489.04</td>
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CREDIT CARDS, LOANS & MORTGAGES

<table>
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<th>Balance</th>
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<tbody>
<tr>
<td>TRUST REWARDS VISA CARD - 76543210000</td>
<td>-$1274.60</td>
</tr>
<tr>
<td>TRUST LINE OF CREDIT ACCOUNT - 765412345000</td>
<td>-$5420.34</td>
</tr>
</tbody>
</table>

KOODO MOBILE

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Usage</th>
<th>Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity On-Peak Summer</td>
<td>0.15000</td>
<td>155.90</td>
<td>$23.35</td>
</tr>
<tr>
<td>Electricity Mid-Peak Summer</td>
<td>0.12000</td>
<td>119.96</td>
<td>$14.39</td>
</tr>
<tr>
<td>Electricity Off-Peak Summer</td>
<td>0.05000</td>
<td>573.38</td>
<td>$28.67</td>
</tr>
</tbody>
</table>

Total Charges

- Delivery: $45.12
- Regulatory Charges: $5.27
- Debt Retirement Charge: $5.94
- TOTAL ELECTRIC CHARGES: $141.94
- H.S.T.: $18.45
- TOTAL OTHER CHARGES: $159.39
- Ontario Clean Energy Benefit: -$16.03
- Regional Water Charges: $51.68
- Service Charge meter size 20mm: $50.99
- Consumption Charge: $186.67
- TOTAL REGIONAL WATER CHARGES: $238.38
- Current Charges due by 2015-10-28: $281.03
- TOTAL AMOUNT DUE: $281.03

Account Number: 12345678912
Name: John Doe
Service Address: 123 Nowhere Street
Electric Account: INTERNAL RESIDENTIAL
Water Account: RESIDENTIAL

Previous Balance: $141.08
Payment 10/21/2015: $141.08
Balance Forward: $0.00

St. Michael's
Inspired Care. Inspiring Science.
Benefits

- Integration of routine/structure.
- Opportunity to engage in meaningful and therapeutic activities\(^6\).
- Increased interpersonal interactions.
- Development of insight into deficits and early compensatory strategies.
Study Design

- Exploratory design using a qualitative approach.
- Questionnaire administered to participants by non-referring OT.

<table>
<thead>
<tr>
<th>Cognitive Group Questionnaire</th>
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<tbody>
<tr>
<td>We want to know if you are satisfied with the cognitive group at St. Michael’s Hospital. Please answer the following questions to the best of your ability.</td>
</tr>
</tbody>
</table>

1. The purpose of the group was clearly explained to me.
   - [ ] Yes
   - [ ] No

2. The therapeutic activities were clearly explained to me.
   - [ ] Yes
   - [ ] No

Please rate the extent to which you agree or disagree with the following statements. Use a scale of 1 to 5, where 1 indicates Strongly Disagree and 5 indicates Strongly Agree.

3. I enjoyed participating in the cognitive group.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

4. The activities I did in the cognitive group were challenging enough for me.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

5. The cognitive group was useful in my recovery.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

6. Overall, I am satisfied with my experience with the cognitive group.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Comments: _______
Results

• Since the inception of the group in the winter of 2015, 148 patients have attended.
• Preliminary participant survey data indicate 89 percent of patients were overall satisfied.
• Comments:
  • “The activities started off very easy at first but then they got harder”.
  • “I liked how they had it set-up, the one-on-one, it’s terrific”.
  • “More up to date games, chess or computer games”.
  • “More people in the room”/”1-2 more participants”.
  • “Good amount of time for each session”.

Early Cognitive Rehab in Acute Care
Next Steps

• Collect feedback from the interdisciplinary team.
• Liaise with other stakeholders to determine the effectiveness of early cognitive rehab in acute care.
References


