Multidisciplinary Supported Discharge Program for Stroke Patients in OLMH

presented by Sharon Poon (O.T.I)
OLMH
Background

- Stroke patients constituted 17% of in-patients in Geriatric Ward in OLMH in 2010

- Overwhelmed with the unexpected demand in daily caring issues with limited support (Cecil, Parahoo, Thompson, McCaughan, Power & Campbell, 2010)

- 4 distinct trajectories of psychological distress faced by stroke patients (Lutz, Young, Cox, Martz & Creasy, 2011)

- Anxiety and depression in carers of stroke during the first 3 months after discharge (Greenwood & Mackenzie, 2010)
OLMH Stroke Rehabilitation Care Management Plan

• Deliver comprehensive stroke rehabilitation service to patients admitted to Geriatric Ward in OLMH

• Multidisciplinary team: Geriatrician, Nurse, Physiotherapist, Occupational Therapist, Medical Social Worker, Dietitian, Pharmacist, Pastoral Care

• Weekly case conference for rehabilitation progress, rehabilitation plan, pre-discharge plan and post-discharge arrangement
# OLMH Stroke Rehabilitation Care Management

<table>
<thead>
<tr>
<th></th>
<th>Admission</th>
<th>Rehabilitation</th>
<th>Case Conference</th>
<th>Pre-discharge Stage</th>
</tr>
</thead>
</table>
| **Medical**          | • Systematic Ass. & impairment evaluation  
                     • Diagnosis and risk factors review  
                     • Medication Review & follow up  | • Review all professions’ Ass. +/- refine Mx. Plan  
                     • Medical review & Mx.  
                     • Optimize RF control  | • Social background and premorbid state evaluation  
                     • Finding of Initial Ass.  
                     • Discussion on rehab progress  
                     • Refine rehab plan  
                     • Social condition and D/C arrangement  
                     • Post-discharge arrangement  
                     • Long-term care plan  | • Optimize risk factor control  
                     • Finalize secondary prevention  
                     • Review blood results  
                     • Enhance information exchange  |
| **Nurse**            | • Comprehensive nursing Ass.  
                     • Fall Ass.  
                     • Intake & Output chart for 2 days  
                     • Pressure Sore Care Program  | • Nursing daily Ass.  
                     • Educate pt and carer stroke management and prevention of complication  |  | • Pre-discharge Ass.& planning  
                     • Introduce phone FU service  
                     • Refer to GDH/ CNS/ICM  |
| **OT**               | • Blanket referral  
                     • OT Ass. within 2 days  
                     • Living environment and supportive system  | • Commence Rx and revise accordingly  |  |  |
| **PT**               | • Blanket referral  
                     • PT Ass. within 2 days  
                     • PT Treatment  | • Commence Rx and revise accordingly  |  | • Continue rehab  
                     • Prescribe walking aids or WC  
                     • Review PT Ass.  |
| **Dietitian**        | • On referral basis  
                     • Nutrition screening  |  |  |  |
| **MSW**              | • On referral basis  
                     • Seen within 2 working days upon receiving referral  | • Psychosocial need Ass.  
                     • Care & D/C plan  
                     • Community resources  |  |  |
| **Pharmacist**       |  |  | • Medication review  |  |
| **ST**               | • On referral basis  |  |  |  |
| **Pastoral Care**    | • Emotional support  |  |  |  |
Multidisciplinary Supported Discharge Program for Stroke Patients in OLMH

- Sequel to OLMH Stroke Rehabilitation Care Management Plan

- Facilitate stroke patients and their caregivers to adapt to community living at early post discharge period

- Key members: Geriatrician, nurses and occupational therapists
Objectives

1. To provide support to stroke patients who were discharged to the community and their caregivers

2. To identify the health care needs and the sources of stress for stroke patients and their caregivers

3. To provide support and intervention on health care needs in a timely manner
Roles of Different Disciplines

Geriatrician
- Risk factors, medication and follow up investigation

Nurse
- Telephone follow-up (e.g. medication, caring problems, psychological support, outcome measures)

OT
- Home visit (e.g. home assessment, home modification, prescription of ADL aids)
Flow Chart of Multidisciplinary Supported Discharge Program for Stroke Patients

Recruitment of Subjects

Nurse: Phone FU

OT: Home visit

Weekly Multidisciplinary Case Conference

Stroke cases for rehabilitation

Discharge plan

Discharge to home No

Follow the discharge plan

Yes

Recruit into the multi-disciplinary supported stroke discharge program

Patient & relative agree No

Phone follow up by nurse: post discharge 1 week, 1 month & 3 months

Home visit by occupation therapist: 2 days within first phone follow up

Any problem identifies No

FU as scheduled

Yes

Discuss in multidiscipline case conference

Refer to related professionals

Revised on May, 2012
Recruitment of Subjects

- **Inclusion Criteria:**
  - Patients admitted to geriatric ward with diagnosis of stroke
  - Stroke patients who are planned to be discharged home

- **Exclusion Criteria:**
  - Patients who were discharged to OAH
  - Patients who were admitted to ICM program
  - Patients who rejected to participate this program
Post-discharge phone follow-up by nurse

Three sections of phone FU: 1st wk, 1st month & 3rd month
Home Visit by OT within 2 days after 1st phone FU by nurse
Outcome Measures

1. Modified Barthel Index (MBI)

2. Modified Functional Ambulatory Categories (MFAC)

3. Patient and Caregiver’s stress level (rating 1-10)

4. Patient and Caregiver’s satisfaction on the effectiveness of the program (rating 1-10):
   - How helpful do you find this service?
   - What is your satisfaction level of this program?
Results: Subject Profile (Age & Gender)

Age of Patients (N=35)
(Mean: 69.88)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percentage of Patients</th>
</tr>
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<tbody>
<tr>
<td>40-50</td>
<td>5%</td>
</tr>
<tr>
<td>51-60</td>
<td>15%</td>
</tr>
<tr>
<td>61-70</td>
<td>25%</td>
</tr>
<tr>
<td>71-80</td>
<td>35%</td>
</tr>
<tr>
<td>81-90</td>
<td>20%</td>
</tr>
<tr>
<td>91-100</td>
<td>5%</td>
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</table>

Gender of Patients (N=35)

- Male: 55%
- Female: 45%
## Mean & SD of Outcome Measures

<table>
<thead>
<tr>
<th></th>
<th>Phone FU (1 week)</th>
<th>Home Visit</th>
<th>Phone FU (1st month)</th>
<th>Phone FU (3rd month)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MBI</strong></td>
<td>85.27 (23.90)</td>
<td>83.06 (26.97)</td>
<td>92.21 (19.98)</td>
<td>92.20 (18.74)</td>
</tr>
<tr>
<td><strong>MFAC</strong></td>
<td>5.85 (1.39)</td>
<td>-----</td>
<td>6.39 (1.00)</td>
<td>6.43 (1.22)</td>
</tr>
<tr>
<td><strong>Caregiver’s Stress Level</strong></td>
<td>4.43 (2.87)</td>
<td>-----</td>
<td>3.53 (2.58)</td>
<td>3.20 (2.59)</td>
</tr>
<tr>
<td><strong>Patient’s Stress Level</strong></td>
<td>2.57 (2.74)</td>
<td>-----</td>
<td>1.61 (2.05)</td>
<td>1.03 (1.84)</td>
</tr>
</tbody>
</table>
## Paired Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Std Error</th>
<th>Mean</th>
<th>t</th>
<th>p value</th>
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</thead>
<tbody>
<tr>
<td>MBI (1 wk vs 1 m)</td>
<td>.722</td>
<td>-4.21</td>
<td>.000*</td>
<td></td>
</tr>
<tr>
<td>MBI (1 wk vs 3 m)</td>
<td>1.38</td>
<td>-2.56</td>
<td>.016*</td>
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<tr>
<td>MBI (1 m vs 3 m)</td>
<td>.953</td>
<td>-.90</td>
<td>.373</td>
<td></td>
</tr>
<tr>
<td>MFAC (1 wk vs 1 m)</td>
<td>.081</td>
<td>-3.26</td>
<td>.002*</td>
<td></td>
</tr>
<tr>
<td>MFAC (1 wk vs 3 m)</td>
<td>.128</td>
<td>-2.92</td>
<td>.005*</td>
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</tr>
<tr>
<td>MFAC (1 m vs 3 m)</td>
<td>.105</td>
<td>-1.42</td>
<td>.164</td>
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</tr>
<tr>
<td>Caregiver Stress (1 wk vs 1 m)</td>
<td>.323</td>
<td>3.33</td>
<td>.002*</td>
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<tr>
<td>Caregiver Stress (1 wk vs 3 m)</td>
<td>.402</td>
<td>3.16</td>
<td>.003*</td>
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<tr>
<td>Caregiver Stress (1 m vs 3 m)</td>
<td>.285</td>
<td>1.02</td>
<td>.316</td>
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<tr>
<td>Patient Stress (1 wk vs 1 m)</td>
<td>.410</td>
<td>1.28</td>
<td>.208</td>
<td></td>
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<tr>
<td>Patient Stress (1 wk vs 3 m)</td>
<td>.467</td>
<td>1.50</td>
<td>.142</td>
<td></td>
</tr>
<tr>
<td>Patient Stress (1 m vs 3 m)</td>
<td>.258</td>
<td>0.68</td>
<td>.501</td>
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</tbody>
</table>
## Correlation Coefficient (1 wk)

<table>
<thead>
<tr>
<th></th>
<th>MBI (1 wk)</th>
<th>MBI (home visit)</th>
<th>MFAC (1 wk)</th>
<th>Caregiver’s Stress (1 wk)</th>
<th>Patient’s Stress (1 wk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBI (1 wk)</td>
<td>1</td>
<td>.995**</td>
<td>.902**</td>
<td>.100</td>
<td>.033</td>
</tr>
<tr>
<td>MBI (home visit)</td>
<td>.995**</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>MFAC (1 wk)</td>
<td>.902**</td>
<td>---</td>
<td>1</td>
<td>.095</td>
<td>.048</td>
</tr>
<tr>
<td>Caregiver’s Stress (1 wk)</td>
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<td>.095</td>
<td>1</td>
<td>.319*</td>
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<tr>
<td>Patient’s Stress (1 wk)</td>
<td>.033</td>
<td>---</td>
<td>.048</td>
<td>.319*</td>
<td>1</td>
</tr>
</tbody>
</table>
Results: Caregivers and Patients’ Feeling of Helpfulness

Caregiver's Feeling of Helpfulness

- 5: 0%
- 6: 5%
- 7: 10%
- 8: 20%
- 9: 30%
- 10: 40%

Patients' Feeling of Helpfulness

- 2: 5%
- 3: 10%
- 4: 15%
- 5: 20%
- 6: 25%
- 7: 30%
- 8: 35%
- 9: 40%
- 10: 45%
Results: Caregivers and Patients’ Level of Satisfaction

Caregivers’ Level of Satisfaction

<table>
<thead>
<tr>
<th>Rating of Level of Satisfaction</th>
<th>Percentage of Caregivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>7</td>
<td>15%</td>
</tr>
<tr>
<td>8</td>
<td>40%</td>
</tr>
<tr>
<td>9</td>
<td>20%</td>
</tr>
<tr>
<td>10</td>
<td>15%</td>
</tr>
</tbody>
</table>

Patients Level of Satisfaction

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<thead>
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<th>Percentage of Patients</th>
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<tr>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>6</td>
<td>0%</td>
</tr>
<tr>
<td>7</td>
<td>0%</td>
</tr>
<tr>
<td>8</td>
<td>0%</td>
</tr>
<tr>
<td>9</td>
<td>20%</td>
</tr>
<tr>
<td>10</td>
<td>30%</td>
</tr>
</tbody>
</table>
Case Presentation

- **Patient:** Mr. Lee (M/85)
- **Diagnosis:** CVA R hemi
- **Social History:** Lives alone
  - daughter: weekly visit + phone contact
  - close friend: frequent visit
- **Mobility status:** walk with stick
- **MFAC:** 6
- **MBI:** 93/100 (at home)
- **MMSE:** 24/30
- **Stress level - Patient:** 0  
  **Carer (daughter):** 6
Environmental barrier: Toilet
Environmental barrier: Shower space
Recommendation: Handrail installation in shower space (Video clip)
IADL Performance: hanging clothes
Conclusion

- Continuity of care after discharge is valuable for stroke patients and caregivers:
  - to handle stress in daily life (e.g. medication, symptom management, home safety)
  - increase self efficacy to maintain independence in community living

- Effective communication between different health professionals is valuable for better patient care
Team Members

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THANK YOU