SUPPLEMENTAL MATERIALS

Study Title: Development of a Culturally Adaptable Intermediate Care Model for Older Adult Stroke Survivors

Audio visual URL

https://drive.google.com/file/d/1eHB9dcbhM8Iefyy0hfkMaJii07nvLsPS/view?usp=drive_link

Preliminary intermediate Care Model

1. **Stroke knowledge and prevention**

Stroke warning signs

- Sudden facial, arm, or leg numbness or weakness, especially on one side of the body
- Sudden disorientation, difficulty speaking and understanding
- Sudden vision problems in one or both eyes
- Sudden difficulty walking, light-headedness, unsteadiness, or lack of coordination
- Sudden, intense headaches without apparent cause.

Stroke prevention

- Hypertension, smoking, diabetes mellitus, physical activity, nutrition, psychological variables, alcohol, abdominal obesity, cardiac causes, and apolipoproteins are among the modifiable risk factors for preventing stroke.

2. **Physiotherapy/Mobility**

Meaningful task	Repetition	Duration	Target movements	Specific method to perform
Reaching B/L for a glass	20		Scapular mobility – protraction/retraction Shoulder flexion/ extension	Guide Assist Encourage for more effort

			Elbow extension Hand mass grasp	Progressively increase either distance / speed / repetition Randomly order the tasks in every session Give auditory
Stabilizing a glass with the affected hand and pouring water from a bottle by the sound side 10			Hand cylindrical grasp Wrist dorsiflexion Finger abduction & mild flexion	
Stabilizing a glass with the sound hand and pouring water from a bottle by the affected side 10			Shoulder abduction, flexion & media rotation Elbow flexion Forearm pronation Wrist extension & radial deviation Hand cylindrical grasp	
Lock and key manipulation		4min	Lateral prehension Forearm – pronation supination	

- Range of motion in the leg, as well as in the arm, is maintained with positioning, splints, and slow rhythmic rotation and stretch of all joints several times a day on the paretic side, along with minimal weight bearing as soon as possible.
- At the onset of therapy, the physical therapist might stimulate this pattern just enough to allow weight bearing on the leg. At the same time, flexion at the hip, knee, and ankle would be encouraged by such mat exercises as rolling onto the side and bringing the knee to the chest with whatever sensory stimulation and physical assistance is needed.
- use of a combination of body-weight support with an overhead harness and rhythmic oscillation of the lower extremities made possible by simultaneous treadmill training.

- Use of assistive devices such as grab bars, rails, ramps, and environmental controls at home; architectural changes such as widening a doorway to allow wheelchair access.
- Forced to use the paretic hand, for example by tying down the normal limb as they practice self-care skills, some improve the function of the paretic upper extremity.

3. Vital signs

They are the body's most basic functions such as body temperature, blood pressure, pulse rate and respiration rate.

Body temperature is measured using a thermometer and can be taken orally, rectally, axillary, by ear or by skin. The normal body temperature is 36.5 degrees Celsius.

The number of times the heart beats each minute is known as the pulse rate. An adult's typical pulse should be between 60 and 80 beats per minute. Pulse can be measured with a pulse rate machine. Manually, press the arteries at the wrist firmly until you find a pulse. Count for one minute concentrating on the pulse.

Blood pressure can also be measured with a BP machine. Normal blood pressure for an adult is 120/80mmHG

Respiration rate is the number of breaths per minute. An adult's normal respiratory rate is between 12-20 breaths each cycle.

4. Speech therapy

- Visual and verbal cueing techniques that include picture matching, sentence-completion tasks, frequent repetition, and positive reinforcement as the patient approaches the desired responses are among the most common interventions.

5. Reminiscence therapy

The caregiver assists the patient in re-visiting the past by asking the patient to talk about:

- The wonderful experiences spend together on special moments, e.g., acquaintances, getting married, and raising children.
- Dreams of our youth
- Experience in taking care of children
- Efforts and performance while working

- The most rewarding things in work or family
- Positive change during care
- Caring experience
- Funny or happy things during care

Patients should not be rushed or forced to answer all questions during reminiscence therapy sessions.

Guides and Materials

Precious old photos, collections, old songs or movies, diaries, letters, notes and pads etc.

6. Financial management education

- Registering the patient under a health insurance scheme such as the National Health Insurance Authority.
- Inform social workers and Non-Governmental Organizations about financial needs.
- Power of attorney (accessibility to patient's account).
- Handling bank issues for patients such as signatures.

7. Nutritional service

Caregivers will be given information on knowledge and skills about attending to a poststroke patient's food and medicine, proper types and amounts of food, food preparation, and feeding methods.

- Patients with swallowing difficulty could undergo therapies such as compensatory head repositioning such as flexing or turning to one side, icing the pharynx, tongue and sucking exercises, double swallowing, supraglottic cough, and dry coughing. Dysphagic patients should be fed with patience to allow them to get enough food and adequate nutrition.
- Consumption of vegetarian and Mediterranean-type diet (instead of a low-fat diet), with a reduction of sodium intake to less than 2.4 g per day and eventually to refer them for individualized nutritional counselling.

8. Medication management

Caregivers will be taught how to reconcile all of the patient's medication regimens and the use of medication discrepancy tool

Sample of Medication Discrepancy Tool

Patient level Causes and Contributing Factors

[ ] 1. Adverse drug reactions or side effects

[ ] 2. Intolerance

[ ] 3. Didn't fill the prescription

[ ] 4. Didn't need prescription medication."

[ ] 5. Money/financial barriers

[ ] 6. Intentional nonadherence "I was told to take this but I choose not to."

[ ] 7. Nonintentional nonadherence (i.e., knowledge deficit) "I don't just understand how to take this

[ ] 8. Performance deficit "Maybe someone showed me, but I can't demonstrate to you that I can."

9. Seizure management

- Place the person gently on one side to assist him/her in breathing
- Clear all hard objects close to the person.
- Never hold, try to restrain, or halt the person's movements.
- To prevent damage to the person's teeth or jaw, avoid putting anything in their mouth.
- Check if the person has any emergency information.
- Tuck a soft cloth beneath his or her head, for instance, a folded jacket.
- Remain at the person's side until the seizure stops and they are completely awake. After it ends, help the person sit up gently.
- Comfort the person and speak calmly.
- Until the person is fully alert, do not give any food or liquid.

10. Service referral

- See a psychologist for mood disorders
- Make referrals to primary care for minor medical treatment,
- In cases of emergencies, visit specialty care or community rehabilitation services.

Final Intermediate Care Model

1. **Stroke knowledge and prevention**

Stroke warning signs

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- Sudden, intense headaches without apparent cause.

Stroke prevention

- Hypertension, smoking, diabetes mellitus, physical activity, nutrition, psychological variables, alcohol, abdominal obesity, cardiac causes, and apolipoproteins are among the modifiable risk factors for preventing stroke.

2. Physiotherapy/Mobility

Meaningful task	Repetition	Duration	Target movements	Specific method to perform
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Stabilizing a glass with the sound hand and pouring water from a bottle by the affected side 10			Shoulder abduction, flexion & media rotation Elbow flexion Forearm pronation Wrist extension & radial deviation Hand cylindrical grasp	
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- Range of motion in the leg, as well as in the arm, is maintained with positioning, splints, and slow rhythmic rotation and stretch of all joints several times a day on the paretic side, along with minimal weight bearing as soon as possible.
- At the onset of therapy, the physical therapist might stimulate this pattern just enough to allow weight bearing on the leg. At the same time, flexion at the hip, knee, and ankle would be encouraged by such mat exercises as rolling onto the side and bringing the knee to the chest with whatever sensory stimulation and physical assistance is needed.
- Use of a combination of body-weight support with an overhead harness and rhythmic oscillation of the lower extremities made possible by simultaneous treadmill training.
- Use of assistive devices such as grab bars, rails, ramps, and environmental controls at home; architectural changes such as widening a doorway to allow wheelchair access.
- Forced to use the paretic hand, for example by tying down the normal limb as they practice self-care skills, some improve the function of the paretic upper extremity.

3. Vital signs

They are the body's most basic functions such as body temperature, blood pressure, pulse rate and respiration rate.

Body temperature is measured using a thermometer and can be taken orally, rectally, axillary, by ear or by skin. However, the more convenient way for caregivers to take the body temperature is by using the axillary approach. The normal body temperature is 36.5 degrees Celsius.

The number of times the heart beats each minute is known as the pulse rate. An adult's typical pulse should be between 60 and 80 beats per minute. Pulse can be measured with a pulse rate machine. Manually, press the arteries at the wrist firmly until you find a pulse. Count for one minute concentrating on the pulse.

Blood pressure can also be measured with a BP machine. Normal blood pressure for an adult is 120/80mmHG

Respiration rate is the number of breaths per minute. An adult's normal respiratory rate is between 12-20 breaths each cycle.

N:B: Caregivers should ensure to take the vital signs on daily basis to help track changes in the measurements. If any deviation from normal measurement is noticed, seek medical attention from a healthcare provider.

4. Speech therapy

- Visual and verbal cueing techniques that include picture matching, sentence-completion tasks, frequent repetition, and positive reinforcement as the patient approaches the desired responses are among the most common interventions.
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5. Reminiscence therapy

The caregiver assists the patient in re-visiting the past by asking the patient to talk about:

- The wonderful experiences spend together on special moments, eg, acquaintances, getting married, and raising children.
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- The most rewarding things in work or family
- Positive change during care

- Caring experience
- Funny or happy things during care

Patients should not be rushed or forced to answer all questions during reminiscence therapy sessions.

Guides and Materials

Precious old photos, collections, old songs or movies, diaries, letters, notes and pads etc.

6. Financial management education

- Children, spouse and other family members should provide financial assistance and support for the stroke survivor because stroke care often require long-term financial commitment for medications, rehabilitation, transportation, and follow-up appointments.
- Registering the patient under a health insurance scheme such as the National Health Insurance Authority.
- Inform social workers and Non-Governmental Organizations about financial needs.
- Power of attorney (accessibility to patient's account).
- Handling bank issues for patients such as signatures.

7. Nutritional service

Caregivers will be given information on knowledge and skills about attending to a poststroke patient's food and medicine, proper types and amounts of food, food preparation, and feeding methods.

- Patients with swallowing difficulty could undergo therapies such as compensatory head repositioning such as flexing or turning to one side, icing the pharynx, tongue and sucking exercises, double swallowing, supraglottic cough, and dry coughing. Dysphagic patients should be fed with patience to allow them to get enough food and adequate nutrition.

- Consumption of vegetarian and Mediterranean-type diet (instead of a low-fat diet), with a reduction of sodium intake to less than 2.4 g per day and eventually to refer them for individualized nutritional counselling.

8. Medication management

- Caregivers should ensure to have a comprehensive list of stroke survivors' medications. This would help to ensure avoid errors such as omissions of medications, and incorrect dosages. The comprehensive medication list will also help by providing accurate information about the patient's current treatment and timely clinical decision making.
- Caregivers should reconcile patient's medication regimens and the use of medication discrepancy tool

Sample of Medication Discrepancy Tool

Patient level Causes and Contributing Factors

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- Check if the person has any emergency information.

- Tuck a soft cloth beneath his or her head, for instance, a folded jacket.
- Remain at the person's side until the seizure stops and they are completely awake. After it ends, help the person sit up gently.
- Comfort the person and speak calmly.
- Until the person is fully alert, do not give any food or liquid.

10. Service referral

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- Make referrals to primary care for minor medical treatment,
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Validation tool during the Delphi Process

Title: Development of a Culturally Adaptable Intermediate Care Model for Older Adult Stroke Survivors

Objective

To develop a home-based intermediate care model for improved functional outcomes and quality of life in older adult stroke survivors.

Instruction: Kindly provide your candid opinion on the adequacy of the domain and its content using the Likert scale below each domain. Suggestions for improvement should be written in the spaces provided.

A. Stroke knowledge and prevention

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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_____

B. Vital signs

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

_____

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C. Physiotherapy/Mobility

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

_____

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D. Speech therapy

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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E. Reminiscence therapy

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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_____

F. Financial management education

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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G. Nutritional service

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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H. Medication management

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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I. Seizure management

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree [ ]

Free text Comments

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J. Service referral

**I strongly disagree [ ] I disagree [ ] I neither disagree nor agree [ ] I agree [ ] I strongly agree[ ]

Free text Comments

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Eleven Studies included in Systematic Review

S/N	Title	Reference
1	Surviving a stroke in South Africa: outcomes of home-based care in a low-resource rural setting	Scheffler E, Mash R. Surviving a stroke in South Africa: outcomes of home-based care in a low-resource rural setting. Top Stroke Rehabil 2019; 26: 423–434. https://doi.org/10.1080/10749357.2019.1623473
2	Effectiveness of home rehabilitation program for ischemic stroke upon disability and quality of life: a randomized controlled trial	Chaiyawat P, Kulkantrakorn K. Effectiveness of home rehabilitation program for ischemic stroke upon disability and quality of life: a randomized controlled trial. Clin Neurol Neurosurg 2012; 114: 866–870. https://doi.org/10.1016/j.clineuro.2012.01.018
3	Meaningful Task-Specific Training (MTST) for stroke rehabilitation: a randomized controlled trial	Arya KN, Verma R, Garg RK, et al. Meaningful Task-Specific Training (MTST) for stroke rehabilitation: a randomized controlled trial. Top Stroke Rehabil 2012; 19: 193–211. https://doi.org/10.1310/tsr1903-193
4	Stroke rehabilitation: should physiotherapy intervention be provided at a primary health care	Olaleye OA, Hamzat TK, Owolabi MO. Stroke rehabilitation: should physiotherapy intervention be provided at a primary health care centre or

	centre or the patients' place of domicile?	the patients' place of domicile? Disabil Rehabil 2014; 36: 49–54. https://doi.org/10.3109/09638288.2013.777804
5	Mobile game-based virtual reality program for upper extremity stroke rehabilitation	Choi Y-H, Paik N-J. Mobile game-based virtual reality program for upper extremity stroke rehabilitation. J Vis Exp 2018; (133): 56241. https://doi.org/10.3791/56241
6	Effects of home-based versus clinic-based rehabilitation combining mirror therapy and task-specific training for patients with stroke: a randomized crossover trial	Hsieh Y, Chang K, Hung J, et al. Effects of home-based versus clinic-based rehabilitation combining mirror therapy and task-specific training for patients with stroke: a randomized crossover trial. Arch Phys Med Rehabil 2018; 99: 2399–2407. https://doi.org/10.1016/j.apmr.2018.03.017
7	Nursing Home Care Intervention Post Stroke (SHARE) 1 year effect on the burden of family caregivers for older adults in Brazil: a randomized controlled trial	Day CB, Bierhals CCBK, Mocellin D, et al. Nursing Home Care Intervention Post Stroke (SHARE) 1 year effect on the burden of family caregivers for older adults in Brazil: a randomized controlled trial. Health Soc Care Community 2021; 29: 56–65. https://doi.org/10.1111/hsc.13068
8	Application effect of the hospital-community integrated service model in home rehabilitation of stroke in disabled elderly: a randomised trial	Feng W, Yu H, Wang J, et al. Application effect of the hospital-community integrated service model in home rehabilitation of stroke in disabled elderly: a randomised trial. Ann Palliat Med 2021; 10: 4670–4677. https://doi.org/10.21037/apm-21-602
9	Effects of modified 8-week reminiscence therapy on the older spouse caregivers of stroke survivors	Mei Y, Lin B, Li Y, et al. Effects of modified 8-week reminiscence therapy on the older spouse caregivers of stroke survivors in Chinese communities: a randomized controlled trial. Int J

	in Chinese communities: a randomized controlled trial	Geriatr Psychiatry 2018; 33: 633–641. https://doi.org/10.1002/gps.4833
10	Effectiveness of home-based carer-assisted in comparison to hospital-based therapist-delivered therapy for people with stroke: a randomised controlled trial	Nordin NAM, Aziz NA, Sulong S, et al. Effectiveness of home-based carer-assisted in comparison to hospital-based therapist-delivered therapy for people with stroke: a randomised controlled trial. Neurorehabilitation 2019; 45: 87–97. https://doi.org/10.3233/NRE-192758
11	Quasi-experimental evaluation of a home care model for patients with stroke in China	Chen L, Sit JW-H, Shen X. Quasi-experimental evaluation of a home care model for patients with stroke in China. Disabil Rehabil 2016; 38: 2271–2276. https://doi.org/10.3109/09638288.2015.1123305