

香港中文大學  
The Chinese University of Hong Kong



香港中文大學醫學院  
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## Health Research Symposium 2024

Advancing Health through Research and Technology

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**“COMBO-KEY” (Coaching Ongoing Momentum Building On stroke rEcovery journeyY) - a home visiting and phone coaching programme to promote stroke survivors’ recovery: a territory-wide project (01170718)**

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# Introduction

- Managing the physical and psychosocial challenges after stroke can be complicated for stroke survivors.
- Systematic reviews show that self-management interventions held with largely group-based in community settings were associated with significant improvements in stroke survivors' activities of daily living and quality of life.
- Yet, stroke survivors with greater physical impairment may have limited access to these interventions.

(Lo et al., 2016)



# Aim

Our project aimed to promote stroke survivors' health by building confidence and positive expectations of recovery outcomes and enabling their engagement in stroke self-management behaviours.

Specific objectives were to:

- 1) To develop a multimodal resource package;
- 2) To build a team of coaches;
- 3) To establish a telephone hotline; and
- 4) To assess the impact of the new programme (Coaching Ongoing Momentum Building On strokE rEcovery journeY (COMBO-KEY)) on survivors' health outcomes.



## Ethical consideration:

Ethics approval obtained from the Joint Chinese University of Hong Kong-New Territories East Cluster Clinical Research Ethics Committee. (Ref. No.: 2018.009)

## Study protocol published:

Lo SHS, Chau JPC, Chang AM, Choi KC, Wong RYM, Kwan JCY. Coaching Ongoing Momentum Building On strokE rEcovery journeY ('COMBO-KEY'): a randomised controlled trial protocol. *BMJ Open*. 2019 May 1;9(4):e027936. doi: 10.1136/bmjopen-2018-027936.

## Trial registration number:

ClinicalTrials. gov Identifier: NCT03741842; Pre-results



# Methods

- The project consisted of two phases.
- Lasted from September 1, 2018 to December 31, 2021.
- In Phase one,
  - we developed a novel 8-week COMBO-KEY underpinned by Bandura's self-efficacy principles.



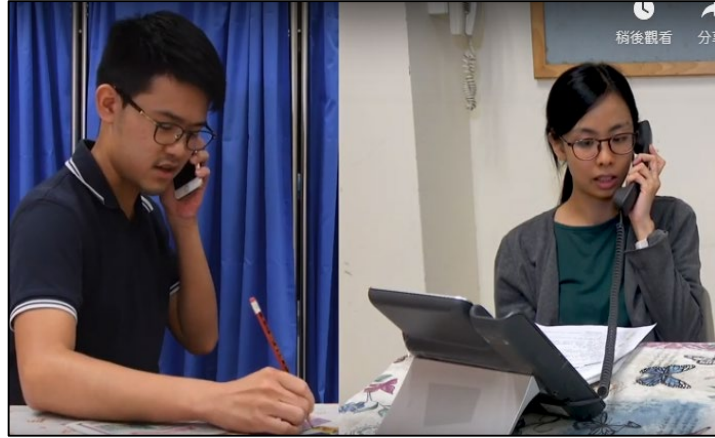
# Methods

## Schedule of the COMBO-KEY

Week	Session
1	Weekly home visit / Virtual meeting
2	
3	
4	Weekly follow-up phone call / Virtual meeting
5	
6	
7	
8	Final home visit / Virtual meeting
8	



# Methods



Healthcare professional and lay volunteer discussing the survivor's progress



Healthcare professional explaining self-management to a survivor and her caregiver



Healthcare professional showing a survivor the website and videos





Sources of information of self-efficacy	Strategies adopted	Programme components
Mastery experience	Establish a self-selected short-term goal of recovery	HV
	Develop an action plan with strategies that fit the participants' lifestyle	HV
	Facilitate to practice core self-management skills	HV, PF
	Encourage to record implementation of the plan	HV, PF
	Encourage the use of the resource package	HV, PF
	Facilitate the reflection of own resources, strengths and challenges	HV, PF

	and Challenges	
Vicarious experience	Review videos about peer survivors' experience sharing	HV
	Guide the reflection of own strengths and challenges	HV
Verbal persuasion	Acknowledge incremental successes	HV, PF
	Provide positive reinforcement	HV, PF
	Reinforce the importance of 'taking an active role'	HV, PF
Physiological and emotional states	Facilitate reinterpretation of negative physiological and emotional states using the resource package	HV, PF
Outcome expectation	Assess and reinforce positive outcomes valued by the participants after performing stroke self-management behaviours	HV, PF

COMBO-KEY, Coaching Ongoing Momentum Building On strokE rEcovery journeY; HV, home visit; PF, follow-up phone calls.

# Methods

Programme deliverables:

1. A programme protocol
2. A coach training package
3. A multimodal resource package (COMBO-KEY resource package)
4. A COMBO-KEY website
5. A KEY telephone hotline (「同您豐」)
6. A coaching team (「晴添」)

COMBO Website:

<https://combogreenangels.com/combo>



## 2. 克服心魔 隨機應變

薛女士出院後拒絕依賴，自己堅持學習自理照顧。一次水中的經歷令她明白隨機應變的重要，亦愛用於生活當中。中風使她與家人關係更親密，朋友之間的扶持亦對她有她莫大的鼓舞。



# Methods

- In Phase two,
  - A 2-arm, assessor-blinded RCT was conducted.
  - A convenience sample of adults who
    - had a first-ever/recurrent ischemic/hemorrhagic stroke;
    - recruited from community-based rehab organizations and support groups.
  - Participants in the intervention group received COMBO-KEY and usual care.



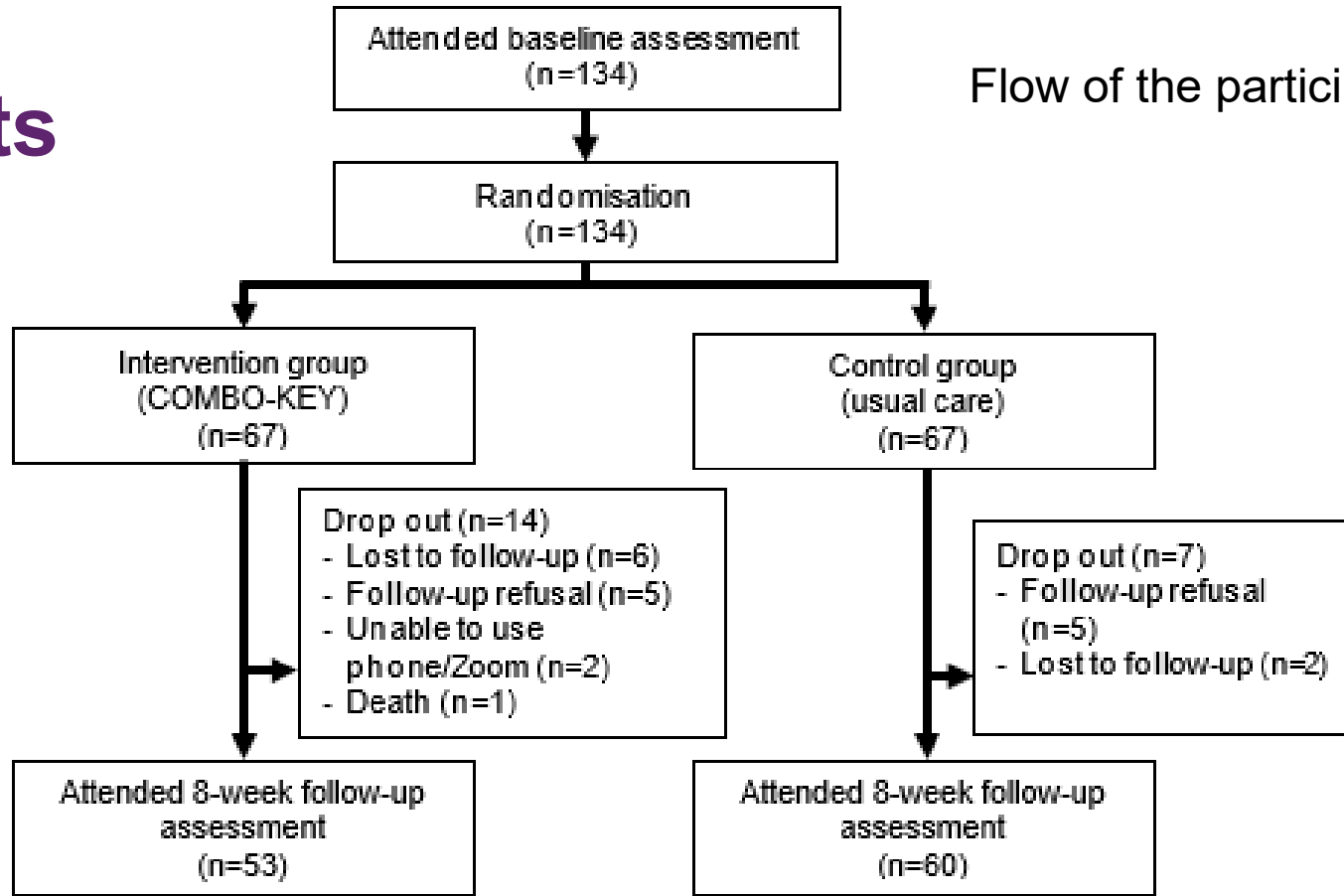
# Methods

- Primary outcome
  - **Self-efficacy (SE):** Stroke SE Questionnaire
- Secondary outcomes
  - **Outcome expectation (OE):** Stroke Self-management OE Scale
  - **Self-management behaviours (SMB):** Stroke SMB Performance Scale
  - **HRQoL:** Stroke Specific QoL Scale
  - **Depressive symptoms:** GDS
  - **Community reintegration:** Reintegration to Normal Living Index
- All intervention participants and volunteers were interviewed.
- Statistical analysis: Generalized estimating equations model



# Results

Flow of the participants



# Results

134 stroke participants

## Characteristics of the participants

Characteristics	Control (n=67) N (%)	Intervention (n=67) N (%)
Age (years) <sup>†</sup>	64.8 (11.2)	63.4 (14.1)
Male	38 (56.7%)	40 (59.7%)
Married	45 (67.2%)	45 (67.2%)
Educational level		
Secondary	35 (52.2%)	35 (52.2%)
Employment status after stroke		
Unemployed	26 (38.8%)	37 (55.2%)
Employed	12 (17.9%)	6 (9.0%)
Retired	25 (37.3%)	23 (34.3%)
Housewife	4 (6.0%)	1 (1.5%)
Years since first stroke <sup>†</sup>	4.3 (6.0)	4.1 (3.9)
First-ever stroke	57 (85.1%)	56 (83.6%)
Ischemic stroke	50 (74.6%)	38 (56.7%)
Slurred speech	13 (19.4%)	22 (32.8%)
Walk unaided	26 (38.8%)	15 (22.4%)

<sup>†</sup>Presented as mean (standard deviation).



# Results

- The findings showed that the participants in the intervention group improved significantly more in total scores of
    - self-efficacy ( $B = 7.80$ , 95% CI: 0.87–14.73,  $p = .027$ ),
    - self-management behaviours ( $B = 6.40$ , 95% CI: 0.40–12.41,  $p = .037$ ),
    - quality of life ( $B = 9.69$ , 95% CI: 1.32–18.06,  $p = .023$ ), and
    - community reintegration ( $B = 12.89$ , 95% CI: 6.18–19.60,  $p < .001$ ).
- at follow-up with respect to baseline compared control.



# Results

## Qualitative evaluation

- Use of videos about other survivors' survival experiences.
- Desire for more home visits by healthcare professionals.
- Longer programme duration for personalised guidance.
- Mutual learning experience for coaches and demand for more support.





# Discussion

- The results are consistent with previous studies on stroke survivors' self-management programs and community reintegration.
- Did not show significant improvement in depressive symptoms and outcome expectation.



# Discussion

- Feedback from healthcare professionals and volunteers was positive.
- Strategies to improve the recruitment of volunteers and the communication.
- Inclusion of peer survivors.



# Discussion

- Limitations
  - Had a stroke within the previous five years.
  - Only half of the intervention group participants were interviewed.



# Conclusion

- The results supported the benefits of the self-management program.
- The model of collaboration between healthcare professionals and trained volunteers in the program delivery could be further explored to optimize the continuity of self-management support to stroke survivors.



# Impact of the project

## *Peer-reviewed Journal Publications*

- Lo SHS, Chau JPC, Choi KC, Wong RYM, Kwan JCY, Iu IHL. Health professional- and volunteer-partnered self-management support (COMBO-KEY) to promote self-efficacy and self-management behaviors in people with stroke: A randomized controlled trial. **Annals of Behavioral Medicine**. 2023;57(10):866–876. <https://doi.org/10.1093/abm/kaad028>
- Lo SHS, Chau JPC, Chang AM, Choi KC, Wong RYM, Kwan JCY. Coaching Ongoing Momentum Building On stroKe rEcovery journeY (‘COMBO-KEY’): a randomised controlled trial protocol. **BMJ Open**. 2019;9(4):e027936. doi:10.1136/bmjopen-2018-027936.
- Lo SHS, Chau JPC, Chang AM. Strategies adopted to manage physical and psychosocial challenges after returning home among people with stroke. **Medicine (Baltimore)**. 2021;100(10):e25026. doi:10.1097/MD.00000000000025026.



# Impact of the project

## Conference Presentations

- Lo, S. H. S., Choi, K. C., Kwan, J. C. Y., Iu, I. H. L., & Chau, J. P. C. (2023, February 8-10). Effects of a home visiting and phone coaching self-management program for stroke survivors: A randomized controlled trial [Moderated poster presentation]. **International Stroke Conference 2023**, Dallas, TX, US.
- Lo, S. H. S., Chau, J. P. C., & Iu, I. H. L. (2022, November 5-7). Changes in managing post-stroke challenges after receiving a self-management programme: A qualitative study [E-poster presentation]. **American Heart Association Scientific Sessions 2022**, Chicago, IL, US.
- Chau, J. P. C., Lo, S. H. S., Butt, L., & Liang, S. (2022, October 26-29). A qualitative study of stroke survivors' perceptions of short-term and long-term rehabilitation needs [E-poster presentation]. **The 14th World Stroke Congress**, World Stroke Organization, Singapore.
- Lo SHS, Chau JPC, Lam SKY. Promoting post-stroke recovery and self-management. Invited paper presented at: The Symposium "Towards a more complete stroke recovery" at the **Seventh Pan Pacific Nursing Conference**; 2021 May 28-29; Hong Kong.
- Lo SHS, Chau JPC. Needs for returning to work: experiences of young adults with stroke. Paper presented at: The State-of-the-Science Stroke Nursing Symposium at **International Stroke Conference**; 2020 Feb 18-21; Los Angeles, United States.
- Lo SHS, Chau JPC. Supporting people with stroke in the community through volunteering: an innovative collaboration between healthcare professionals and general public. Poster presented at: The **International Stroke Conference**; 2020 Feb 18-21; Los Angeles, United States.
- Lo SHS, Chau JPC. Capacity building: establishing a hybrid team of volunteers to support stroke survivors. Paper presented at: **The 2020 Taiwan International Nursing Conference** Endorsed by the International Council of Nurses; 2020 Sept 9-12; Taipei, Taiwan.
- Lo SHS, Chau JPC, Chang AM, Choi KC, Kwan JCY. Exploring young adults' community reintegration needs after stroke. Paper presented at: **The First Cochrane Hong Kong Symposium**; 2019 May 23-24; Hong Kong.
- Lo SHS, Chau JPC, Chang AM, Choi KC, Kwan JCY, Leung EMF, Wong RYM. Building stroke survivors' momentum in recovery via coaching: a randomised controlled trial. Poster presented at: **2018 Yonsei International Nursing Conference**; 2018 Nov 30; Seoul, South Korea.



# Impact of the project

## *Workbook*

- Lo SHS, Chau JPC, Kwok ECY. 自我管理與自信心提升練習指南 [Stroke self-management and building confidence: a workbook]. Hong Kong; 2021 (ISBN: 978-988-79566-6-2)

## *Website*

- COMBO-KEY <https://combogreenangels.com/combo>

## *Newspapers*

- Lo SHS, Chau JPC. 風後復康 目標為本 [Setting goals for improving recovery after stroke]. **Hong Kong Economic Journal**. 2021 Apr 16.
- Lo SHS, Chau JPC, He RX. 中風後復康 要對自己有信心 [Be confident in yourself after stroke]. **Hong Kong Economic Journal**. 2022 Apr 7.



# Impact of the project

## *Newsletter article*

- Lo SHS, Chau JPC, Mao DYT. 實踐自我管理 調適身心自信增 [Implementing self-management - Managing psychosocial well-being and increasing confidence]. Newsletter of the **Hong Kong Stroke Association**. 2023, September.

## *Health promoting workshops*

- Speaker, Three Workshops on Promoting Self-management among Community-dwelling Stroke Survivors, **The Hong Kong Stroke Association**, 8/2022 - 12/2022





# Impact of the project

## *Collaboration with CRN*

- Referral between CRN and COMBO

## *Adaptation of the programme to people in US*

- FEASIBILITY OF A NURSE COACHING INTERVENTION FOR RURAL STROKE SURVIVORS  
PhD student LeeAnn BARFIELD)  
School of Nursing, Georgia State University, Atlanta, GA, US

Being a co-supervisor



# Impact of the project

Knowledge Transfer Project Fund -

Personalised stroke self-management support by trained lay and peer volunteers

中風後自我管理。義工同儕甘共行

Lo, S. H. S., Chau, J. P. C., & Zhang, R. T. J.

Project duration: 1/4/2024 - 30/9/2025



# References

- Lo SHS, Chau JPC, Choi KC, Wong RYM, Kwan JCY, Iu IHL. Health professional- and volunteer-partnered self-management support (COMBO-KEY) to promote self-efficacy and self-management behaviors in people with stroke: A randomized controlled trial. *Annals of Behavioral Medicine*. 2023;57(10):866–876. <https://doi.org/10.1093/abm/kaad028>
- Lo SHS, Chang AM, Chau JPC, Gardner GE. Theory-based self-management programs for promoting recovery in community-dwelling stroke survivors: a systematic review. *JBIS Database System Rev Implement Rep* [Internet]. 2013;11(12):157–215. Available from: <http://dx.doi.org/10.11124/jbisrir-2013-1056>
- Lo, S. H. S., Chang, A. M., & Chau, J. P. C. (2016). Study protocol: A randomised controlled trial of a nurse-led community-based self-management program for improving recovery among community-residing stroke survivors. *BMC Health Services Research*, 16, 387. doi: 10.1186/s12913-016-1642-9.



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# Thank you



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