


The feasibility and effectiveness of telecare consultations in a nurse-led post-acute stroke clinic

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ABSTRACT

Background Telecare may provide an alternative to maintaining post-acute stroke care services in making benefit to both the providers and the stroke survivors, although study is needed to investigate its feasibility and effectiveness in integrating this innovative delivery mode into a routine.

Objectives The objectives of this study are to assess the feasibility and effectiveness of telecare consultations in a nurse-led post-acute stroke clinic.

Methods A pre- and post-test one group quasi-experimental design was adopted. Subjects were recruited in the clinic and received three secondary stroke care consultations in 3 months via telecare from stroke nurses. Data were collected at pre- and post-intervention. A Wilcoxon signed-rank test was used to compare the two time-points for differences in effectiveness.

Results Ninety-two stroke survivors participated. The drop-out rate was 27%. The majority perceived the programme as time-friendly and cost-saving and as alleviating their health-related worries. At the 3-month follow-up, notable improvements were observed in the activities of daily living and the strength domain of stroke-specific quality of life.

Conclusions Integrating telecare consultations within nurse-led stroke clinics is a feasible and acceptable strategy for monitoring the health and fostering the self-care abilities of individuals following their discharge from hospital after an acute stroke episode.

WHAT IS ALREADY KNOWN

- ⇒ The coronavirus has brought to reality the applications of telecare in stroke clinic.
- ⇒ It is doubted that the use of telecare consultation is feasible to stroke patients.

WHAT DOES THIS PAPER ADD

- ⇒ The study results provide evidence on the use of telecare in routine care service.
- ⇒ The study provides an alternative way for stroke survivors to receive care from healthcare professionals without leaving their home, thereby improving their appointment attendance rate and quality of life.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Wider integration of telecare into routine clinical practice can improve patient outcomes and satisfaction.
- ⇒ The findings advocate for policy adjustments to support the use of telecare consultations, enabling more accessible and cost-effective healthcare for stroke survivors, which can also be applied to other chronic conditions.

INTRODUCTION

Recurrent stroke is common among stroke survivors. According to a recent report, in China, nearly half (44%) of stroke survivors experience a recurrent stroke and are re-admitted to hospital within 5 years after an initial event.¹ Percentages are similar in the USA (43%)² and the UK (26%).³ Stroke survivors usually encounter a range of stroke complications such as sensory impairment,^{4,5} cognitive limitations,⁶ mental suffering⁷ and muscle weaknesses⁸ when returning home from an acute stroke unit. The evidence suggests that initiating tertiary stroke prevention strategies immediately after an index stroke can

prevent or minimise the debilitating effects of stroke as well as limit the severity of the damage, allowing stroke survivors to maintain their independence and active involvement in life.⁹

Among the tertiary stroke prevention programmes, there are those where stroke survivors are sent to a nurse-led post-acute stroke clinic right after having been discharged from the acute stroke unit. The clinics are operated independently by stroke nurses who have extensive experience in providing stroke care.¹⁰ The stroke nurses in the clinics play a pivotal role in monitoring and supporting the health of stroke survivors after the acute phase of stroke. During a consultation, the stroke nurses follow structured stroke protocols, perform a comprehensive health assessment, reiterate education



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and self-care techniques and refer the stroke survivor to other healthcare professionals and community services based on the survivors' condition and needs.¹⁰

There is evidence demonstrating that nurse-led post-acute stroke clinics have positive effects on reducing the risk of secondary stroke, improving quality of life and decreasing hospital readmission rates.^{11 12} These are all significant gains, both from perspective of the patient and for public finances. A local study also confirmed that the implementation of a structured tertiary stroke prevention programme in a nurse-led clinic served by stroke nurses led to an improvement in functional capacity and to fewer hospital readmissions for stroke survivors.¹² However, despite its proven outcomes, a recent report showed that more than 15% of stroke survivors were not attending the clinic.¹³ Stroke survivors, particularly those who are physically disabled due to stroke, commented that the need to travel frequently to the nurse-led clinic after the acute phase of the disease made them unwilling to take part in the programme.¹⁴ Healthy stroke survivors, on the other hand, also hesitated to show up for their appointment in the clinic due to the long waiting time in the congested waiting room and the unavoidable travelling time and costs.^{15–17} Given that the use of technology in the field of healthcare has become increasingly prevalent, telecare consultations may be a viable option to help overcome some of these challenges and reduce the default rate of the nurse-led post-acute stroke clinics.

Telecare consultations have been defined as the use of real-time, audio-video communication tools such as Microsoft Teams to support long-distance virtual face-to-face encounters, in this case between healthcare providers and stroke survivors.^{18 19} With the application of telecommunication tools, a nurse can assess and monitor visual and verbal symptoms, observe posture and body language, and communicate with the stroke survivors as usual at a remote location. Telecare consultations may not only benefit stroke survivors with mobility restrictions who are having difficulty accessing customary healthcare services, but it may also reduce overcrowding in clinics and protect both healthcare providers and stroke survivors from being exposed to the risk of infection. The Department of Health in the USA also recognised the crucial role that telehealth consultations and promoted its use through a policy to waive the consultation fee if stroke survivors chose to use telecare as a medium to communicate with healthcare professionals during that critical period.²⁰

Additionally, the use of telecare consultation can improve patient engagement and empowerment by showing them the educational resources and self-management tools via the screen, leading to better adherence to self-care routines and lifestyle modifications.¹⁹ This, in turn, can positively impact stroke-specific quality of life. Telecare consultations can also offer more frequent and flexible opportunities for psychological support, reducing feelings of isolation and depression.

While the advantages of using telecare consultations are apparent, this new technology has not always been welcomed by healthcare professionals and stroke survivors. Inadequate proficiency in using technology, concerns about the privacy, security, and confidentiality of the system, and the inability to conduct physical assessments, to name a few, are well-documented challenges in adapting telecare consultations in nurse-led clinics.^{21 22} In a recent systematic review, the effect of using communication tools was compared with traditional onsite consultations on the ability of stroke survivors to perform ADLs. It was found that the intervention programmes were varied and that there was insufficient evidence to support the use of these new technologies.²³ Despite the wealth of publications on the use of telephone calls, applications or home monitoring devices by healthcare professionals for post-stroke follow-up care, there have been few studies examining the feasibility of adopting telecare consultations for stroke survivors.²³ It remains uncertain whether telecare consultations can serve as a substitute for conventional face-to-face consultations.²³

To the best of our knowledge, there is a scarcity of research examining the feasibility of telecare consultations in nurse-led clinics for both healthcare providers and stroke survivors. This study is needed to address this knowledge gap and to evaluate whether telecare consultations can effectively replace traditional face-to-face consultations. By doing so, we aim to provide evidence on the practicality, benefits and potential limitations of telecare consultations, which could inform future healthcare practices and policies for stroke survivors.

METHODS

Study design

This study adopted a quasi-experimental, one-group pre-test post-test design.

Setting and subject recruitment

Subject recruitment was carried out in the acute stroke unit of one of the biggest hospitals in Hong Kong. Stroke survivors who were discharged from the acute stroke unit with at least one risk factor such as hypertension and diabetes mellitus or who were in other wards but had a referral letter from case medical officers or neurologists were referred to the nurse-led post-acute stroke clinic for tertiary prevention. The stroke survivors were recruited according to the following criteria: inclusion criteria ((1) received a confirmed diagnosis of stroke within 1 month before enrolment, (2) has been referred to a nurse-led post-acute stroke clinic, (3) aged 18 or above, (4) cognitively competent with a score equal to or greater than 22 in the Montreal Cognitive Assessment Hong Kong version,²⁴ (5) living at home before and after being discharged from the acute stroke unit and (6) has a smartphone or is living with a family member who has a smartphone) and exclusion criteria ((1) has unaccompanied hearing or vision loss, (2) cannot be reached by smartphone, (3)

is bed bound, (4) does not have an Internet connection at home and (5) requires physical contact during the consultation, that is, wound dressing).

The potential subjects were identified using the Clinical Management System. They received an invitation in the ward from a research assistant (RA) 1 day before they were discharged. During the ward visit, the RA met the potential subjects by their bedside, screened them for eligibility, explained the programme, sought their consent and collected baseline data. The RA also helped the participants to download into their smartphones the HA Go, an application that allows virtual face-to-face meetings to be held, and provided guidance on using the software.

Ethical considerations

Ethical approval for this study was sought from the Human Ethics Committee of the Hong Kong Polytechnic University (approval no: HSEARS20210714004) and the ethics committees of the hospital (approval no: KC/KE-21-0139/ER-2). Information on the significance, purposes, procedures, benefits and risks of the study was provided to all eligible subjects. Informed written consent was obtained from all subjects.

Interventions

In this study, the post-stroke care provided to participants was modelled after the existing practice of face-to-face consultations, adapted to a telecare format to evaluate its effectiveness. Traditionally, stroke survivors received care through in-person consultations with stroke nurses, where a comprehensive assessment of symptoms, self-reported vital signs, treatment compliance and risk factors was conducted. A stroke management plan was then developed collaboratively, with follow-up consultations focusing on monitoring progress and adjusting the management plan as necessary. This approach followed an evidence-based protocol updated annually.

For this study, the existing face-to-face consultation practice was translated into a telecare format. Over a 3-month period, participants received three telecare consultations with a stroke nurse. During the first telecare appointment, the severity of participants' symptoms was assessed, and a personalised stroke management plan was developed. Participants were educated on post-stroke self-care management skills, lifestyle modifications and necessary precautions.

The nurses conducting the telecare sessions played a crucial role in empowering stroke survivors to manage their self-care at home. They employed several techniques to motivate and encourage self-care, such as goal-setting, where participants were involved in defining achievable health goals that aligned with their recovery. Nurses used motivational interviewing to enhance the participants' confidence in their ability to manage their health and to address any ambivalence about adopting recommended lifestyle changes. Educational materials were provided to reinforce the instructions given during consultations, and

participants were encouraged to ask questions to ensure they fully understood the content.

To further support self-care management, the nurses conducted follow-up during the second and third telecare consultations, where they reviewed the participants' progress, reassessed their condition and addressed any challenges or concerns. These follow-ups also served to ensure that participants complied with the instructions and that they understood the educational content provided. Adjustments to the management plan were made as necessary based on the participants' progress and feedback.

Where appropriate, referrals were made to a multidisciplinary team, and the stroke nurse ensured continuity of care by following up on these referrals. This comprehensive approach aimed to empower stroke survivors to take an active role in their recovery and to manage their self-care effectively at home.

The duration of both face-to-face and telecare consultations was similar, and aside from the mode of delivery, there were no differences between the two groups.

Data collection

The quantitative data were collected at two time intervals: pre-intervention at baseline (T1) and at 3 months when the programmes were completed (T2). T1 data were collected at the stroke survivors' bedside in the ward, while T2 data were collected by telephone after the third telecare consultations were completed. The RAs who have the bachelor's degree and were responsible for collecting the data were trained, and inter-rater reliability was also assessed using the same set of questionnaires to ensure the quality of the data that were collected.

Outcome measures

The primary outcome of this study is *Degree of disability after stroke*. To achieve the objectives of the study, background information was collected at the pre-intervention (T1) stage, feasibility outcomes were obtained post-intervention (T2), and effectiveness outcomes were evaluated at both pre- (T1) and post-intervention (T2).

Background information

Background information included age range, gender, marital status, days from discharge to clinic appointment, stroke type (ischaemic or haemorrhagic), recurrence of stroke, living conditions, persons that one is living with, financial status, travelling time to clinic, confidence level in using technology, and past medical history.²⁵⁻²⁷

Feasibility outcomes

Feasibility outcomes included drop-out rate, attitude towards using telecare and the satisfaction of the subjects towards the programme.²⁸ The drop-out rate was calculated using the data set. The attitude and satisfaction of the subjects towards the programme were evaluated using the Attitude Towards using Telecare Scale (ATTS)²⁹ and the Satisfaction Scale,³⁰ respectively, after the completion of the programme. The ATTS has demonstrated good

construct reliability and Cronbach's alpha, with both 0.89.³¹ The Satisfaction Scale has also shown valid and reliable.³²

Effectiveness outcomes

Effectiveness outcomes included the degree of disability after stroke, ADLs, instrumental ADLs, stroke-specific quality of life and depression.

Degree of disability after stroke was the primary outcome of this study and was measured using a simplified and modified Rankin Scale questionnaire (smRSq).³³ The scale ranges from 0 to 6, with 0 representing no residual symptoms after stroke and 6 indicating death. The smRSq showed substantial reliability, with a Kappa score of 0.82.

ADLs were measured using the Chinese version of the Modified Barthel Index (MBI).³⁴ The scoring system for the MBI consists of the following ranges: 0 to 5 for bathing and grooming; 0 to 10 for feeding, dressing, bowel and bladder management, toileting and stair use and 0 to 15 for transferring between chair and bed, as well as walking. The scores range from 0 to 100, with a higher score indicating a greater level of independence in these activities. The index proved to have high internal consistency (Cronbach's $\alpha=0.93$) and test-retest reliability (*kappa values*=0.63 to 1.00).

The Chinese version of the Lawton Instrumental ADLs (LIADL) was used to measure the instrumental ADLs (IADLs) of the participants.³⁵ Nine domains of IADL are evaluated, which include the ability to use a telephone, shop, prepare meals, perform housekeeping and laundry tasks, use transportation, manage finances, handle medications and carry out handyman tasks. The inter-rater reliability and test-retest reliability of the scale were found to be 0.99 and 0.90, respectively.³⁶ Additionally, the Cronbach alpha for measuring internal consistency was 0.86. Scores were measured on a scale of 0 to 3, with 0 indicating that the individual was incapable of performing an IADL and 3 indicating that the individual was capable of performing an IADL independently.

Stroke-specific quality of life was measured using the Chinese version of the Stroke Impact Scale (SIS).³⁷ The SIS is comprised of 59 items in eight domains, namely, strength, memory and thinking, emotions, communication, ADL/IADL, mobility, hand function and social participation, with each domain consisting of five levels. The total score for this scale is 0 to 100, with 0 representing no recovery and 100 representing full recovery. The scale has been shown to have an internal consistency of Cronbach's α over 0.8 and a good content validity (Content Validity Index>0.8).³⁸

Depression was evaluated using the Chinese version of the Geriatric Depression Scale.³⁹ Out of the 15 items, 10 suggest the presence of depression when answered positively, whereas the remaining items (questions 1, 5, 7, 11 and 13) indicate depression when answered negatively. Scores ranging from 0 to 4 are considered normal, taking into account age, education and reported symptoms;

scores of 5 to 8 indicate mild depression; 9 to 11 suggest moderate depression; and 12 to 15 indicate severe depression. A cut-off point of 8 indicated high sensitivity and specificity, at 96.3% and 87.5%, respectively.³⁹ Good validity and reliability were reported, with criterion-related validity of 0.95 and test-retest reliability of 0.85 among the Chinese population.³⁹

Please refer to online supplemental appendix 1 for a summary of the questionnaires used.

Sample size

Since this study aims to evaluate the feasibility and preliminary effectiveness of the telecare programme among stroke patients, a sample size calculation is not required. The general guideline is to include 60 patients.⁴⁰ Accounting for an anticipated dropout rate of 20%, the total sample size needed is 72 subjects. The programme generated significant interest among stroke patients during the promotion and recruitment phase. This enthusiasm, coupled with the benefits of having additional participants for flexibility in data collection and analysis, led us to exceed our target, enrolling 92 participants in total.

Data analysis

Statistical tests were performed using the SPSS V.26 software. The baseline descriptors were presented as mean and SD for continuous variables and percentage and frequency for categorical variables. A Wilcoxon signed-rank test was used to compare the differences between the two time-points in the scores for smRSq, MBI, LIADL, SIS and GDS. Intention to treat was adopted. Missing data were handled by multiple imputation.

RESULTS

We screened 102 stroke survivors for eligibility, and 92 of the eligible stroke survivors agreed to join the programme. Of these, 25 were lost to follow-up due to personal reasons ($n=12$), not answering phone calls ($n=7$), refusal to complete the post-programme questionnaire ($n=3$), and moving abroad ($n=3$). [Figure 1](#) shows the Consolidated Standards of Reporting Trials diagram.

Characteristics of the participants

A total of 92 participants (49 males, 43 females) from the hospital were enrolled. More than half were aged 60 or above (54.3%). Three-fourths had their first telecare nursing consultation 5–10 days after being discharged from the hospital (74.8%). All but one of the participants had been diagnosed with ischaemic stroke. The time they spent travelling to the hospital varied, with most taking from 21 and 30 min (43.5%), and 11 and 20 min (28.3%) ([table 1](#)).

Feasibility outcomes

The drop-out rate in this 3-month programme was 27% (25/92). After the programme, more than three-fourths of the participants said that they 'strongly agree' and

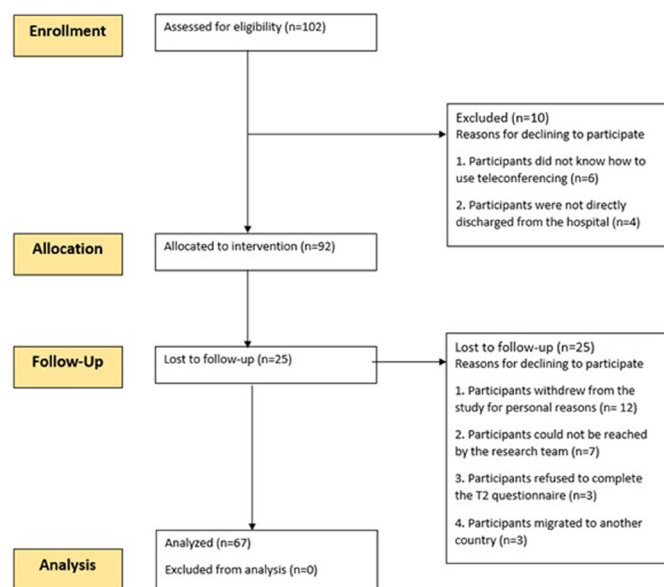


Figure 1 Consolidated Standards of Reporting Trials diagram. The diagram shows the flow of participants through each stage.

‘agree’ with the statements ‘I like using telecare consultations’ (76.1%). They were also satisfied with the use of telecare consultations in the nurse-led post-acute stroke clinic. The majority of participants agreed or strongly agreed that telecare consultations can improve their health (58.2%), save them time (77.6%), reduce health-related worries (82.1%) and save healthcare costs (79.1%) (table 2).

Effectiveness outcomes

Degree of disability after stroke

Table 3 summarises the pre- and post-test scores on effectiveness outcomes. A Wilcoxon signed-rank test with an alpha of 0.05 was used to compare the pre-test simplified modified Rankin scores (median=1.0, SD=0.85) with their post-test equivalents (median=0.0, SD=0.72). An improvement in the median score was evident, although it was not statistically significant ($p=0.085$).

Activities of daily living (ADL) and instrumental activities of daily living (IADL)

The results relating to the activities of daily living and instrumental activities of daily living are shown in table 3. The findings suggest that between T1 and T2, the participants had experienced a statistically significant improvement in their activities of daily living ($Z=-3.34$, $p<0.001$), but not in their instrumental activities of daily living ($Z=-0.96$, $p=0.34$).

Stroke-specific quality of life

Since the majority of participants received a full mark (ie, 100) in most of the domains in T1, there was no statistically significant between-time difference in any of the domains with the exception of strength, where a statistically significant difference was found ($Z=-2.27$, $p=0.023$).

Depression

The findings of the Geriatric Depression Scale suggest that the participants were more depressed after joining the programme, although the difference was not statistically significant ($Z=-1.39$, $p=0.164$).

DISCUSSION

This pilot study provides preliminary evidence for implementing telecare consultations in nurse-led post-acute stroke clinics, where telecare consultations were found to be feasible and acceptable and to have potential benefits for improving health outcomes in stroke survivors. A retention rate of over 70% indicates that the utilisation of nurse-led stroke clinics via telecare consultations was favourably received by stroke survivors, as it helped them to self-monitor their condition and manage their healthcare needs after they were discharged from the hospital. The findings are consistent with those from a previous pilot randomised controlled trial conducted by Naqvi *et al*,⁴¹ where the participant retention rate in a 12-week post-acute stroke blood pressure management programme using telehealth video visits (consisting of a total of 5 visits) was 84%.

The stroke survivors’ high level of satisfaction with telecare consultations was primarily due to the time and cost savings it offered and to the alleviation of their health-related worries. However, the study revealed that less than 60% of stroke survivors perceived an improvement in their health through the telecare consultation programme. This perception may arise from their preference for face-to-face healthcare consultations with healthcare professionals at this stage, as they believed that it better addresses their significant health concerns. Notably, a qualitative study conducted in Hong Kong indicated that some stroke survivors viewed face-to-face follow-up visits as more effective in facilitating communication with healthcare providers regarding their health needs.⁴² Additionally, concerns about the quality of telecare consultations were expressed.⁴² Consequently, in the future, it is imperative to establish personalised multi-disciplinary telecare consultations to cater to the diverse needs of stroke survivors. Furthermore, the development of evidence-based practice guidelines and quality standards is crucial to ensure that the telecare services that are provided are of high quality.⁴³

The findings on health-related outcomes showed positive but non-significant changes in disability after stroke. While we did not include those who were cognitively impaired or bedbound, as their ability to participate in telecare consultations would be impaired, the majority of participants had mild symptoms and minimal neurological impairment, resulting in limited room for improvement. It is important to note that the ADLs of stroke survivors did improve in this study, indicating that providing instruction in self-management skills and lifestyle modifications through telecare consultations can aid in the recovery process after an acute stroke. A systematic

Table 1 Demographic characteristics of the participants (n=92)

		Count	Table valid N%
Gender	Male	49	53.3%
	Female	43	46.7%
Age range	18–40	3	3.3%
	40–50	6	6.5%
	50–60	33	35.9%
	60–75	44	47.8%
	75 or above	6	6.5%
Marital status	Single	9	9.8%
	Married	75	81.5%
	Divorced	4	4.3%
	Widowed	4	4.3%
Days between hospital discharge and first telecare consultation	0–4	9	9.8%
	5–10	69	74.8%
	11–15	12	13.2%
	16–30	2	2.2%
Stroke type	Ischaemic	91	98.9%
	Haemorrhagic	1	1.1%
Stroke recurrence 3 months after discharge from the hospital	Yes	0	0.0%
Living condition	Flat	91	98.9%
	Subdivided flat	0	0.0%
	Cage home	0	0.0%
	Others	1	1.1%
Living	Alone	10	10.9%
	With spouse	9	9.8%
	With family	73	79.3%
Financial status	More than adequate	35	38.0%
	Adequate	51	55.4%
	Inadequate	6	6.5%
	Very inadequate	0	0.0%
Travel time to hospital (minutes)	Equal or less than 10	4	4.3%
	11 to 20	26	28.3%
	21 to 30	40	43.5%
	31 to 40	4	4.3%
	41 to 50	6	6.5%
	51 to 60	8	8.7%
	61 to 120	4	4.3%
Confidence level in using technology	Not confident at all	7	7.6%
	Slightly confident	15	16.3%
	Somewhat confident	23	25.0%
	Fairly confident	30	32.6%
	Completely confident	17	18.5%
Arthritis	Yes	1	1.1%
	No	91	98.9%
Cancer	Yes	3	3.3%
	No	89	96.7%

Continued

Table 1 Continued

		Count	Table valid N%
Cataract	Yes	1	1.1%
	No	91	98.9%
CHD	Yes	5	5.4%
	No	87	94.6%
COPD	Yes	1	1.1%
	No	91	98.9%
Dementia	Yes	0	0.0%
	No	92	100.0%
Depression	Yes	1	1.1%
	No	91	98.9%
Diabetes	Yes	25	27.2%
	No	67	72.8%
Fracture	Yes	0	0.0%
	No	92	100.0%
Genital diseases	Yes	2	2.2%
	No	90	97.8%
Hip knee pain	Yes	0	0.0%
	No	92	100.0%
Hypertension	Yes	53	57.6%
	No	39	42.4%
IHD	Yes	3	3.3%
	No	89	96.7%

CHD, Congestive heart disease; COPD, Chronic Obstructive Pulmonary Disease; IHD, Ischemic heart disease.

review conducted by Saragih *et al*¹⁴ also supported the positive impact of telehealth on improving the ADLs of stroke survivors; however, a review by Zheng *et al*¹⁵ did not find telehealth to be more effective than the usual care in improving ADLs. Since the telehealth modalities used in these studies varied greatly and few of them involved video technology and given that the present study lacked a control group, further rigorous randomised controlled trials are needed to determine the optimal format and dosage of telehealth delivery.

It is important to approach the current findings with caution, as there are several limitations to consider. First, although we successfully recruited 92 participants, exceeding our planned sample size of 72, this larger enrolment may introduce challenges in data management and analysis. While the increased number of participants enhances diversity and flexibility, it could complicate the interpretation of results and introduce variability not accounted for in our initial power calculations. The higher recruitment number was aimed at ensuring a more comprehensive representation of the target population and to accommodate potential dropouts. However, over-recruitment may pose ethical concerns as it could expose participants to unnecessary potential harm. We acknowledge that an Institutional Review Board deviation

was not submitted for recruiting more participants than initially proposed. Future studies should aim to adhere more closely to the intended sample size to mitigate these issues. Additionally, the generalisability of our study findings is limited, as the sample may not fully represent all stroke patients, and the variability introduced by the larger sample size could impact the applicability of the results to different areas or cultural contexts. Future studies should aim to adhere more closely to the intended sample size and consider diverse participant identities (such as gender, age and ethnicity) to provide richer insights. Second, the adoption of the one group pre-test post-test design means that potential confounding variables could not be adequately controlled, which may introduce bias and affect the validity of the conclusions drawn. Additionally, the lack of randomisation could result in selection bias, further impacting the reliability of the findings.

CONCLUSIONS

In conclusion, the integration of telecare consultations within nurse-led stroke clinics proved to be a feasible and well-received approach for monitoring the health conditions and facilitating self-care practices for stroke survivors following their discharge from hospital subsequent

Table 2 Feasibility outcomes (attitude towards using telecare and satisfaction with the programme)

Patient satisfaction		Count (n=67)	Table valid N%
Section 1: attitude towards telecare consultations			
I like using telecare consultations	Strongly agree	24	35.8%
	Agree	27	40.3
	Neutral	11	16.4%
	Disagree	4	6.0%
	Strongly disagree	1	1.5%
The use of telecare is appropriate in general	Strongly agree	21	31.3%
	Agree	34	50.7%
	Neutral	7	10.4%
	Disagree	4	6.0%
	Strongly disagree	1	1.5%
In my old age, telecare consultations are ideal for me	Strongly agree	23	34.3%
	Agree	32	47.8%
	Neutral	7	10.4%
	Disagree	5	7.5%
	Strongly disagree	0	0.0%
Section 2: satisfaction with the telecare consultation services			
Telecare consultations improved your health	Strongly agree	16	23.9%
	Agree	23	34.3%
	Neutral	21	31.3%
	Disagree	4	6.0%
	Strongly disagree	3	4.5%
Telecare consultations saved you time on health issues	Strongly agree	25	37.3%
	Agree	27	40.3%
	Neutral	10	14.9%
	Disagree	3	4.5%
	Strongly disagree	2	3.0%
The use of telecare consultations reduced your health-related worries	Strongly agree	16	23.9%
	Agree	39	58.2%
	Neutral	6	9.0%
	Disagree	6	9.0%
	Strongly disagree	0	0.0%
Telecare can save healthcare costs	Strongly agree	22	32.8%
	Agree	31	46.3%
	Neutral	8	11.9%
	Disagree	5	7.5%
	Strongly disagree	1	1.5%
The telecare consultation services were excellent	Strongly agree	24	35.8%
	Agree	26	38.8%
	Neutral	12	17.9%
	Disagree	4	6.0%
	Strongly disagree	1	1.5%

to an acute stroke incident. This service demonstrates promising potential in facilitating functional recovery among stroke survivors. Future work should explore

the scalability and long-term effects of telecare consultations across diverse populations and settings. Additionally, research could focus on optimising the content

Table 3 Pre- and post-tests on effectiveness outcomes

	T1		T2		Z*	P†
	Median	SD	Median	SD		
ADL	100.0	2.89	100.0	1.34	-3.339	<0.001†
IADL	27.0	2.44	27.0	3.65	-0.955	.339
SSQoL_strength	75.0	30.17	75.0	19.71	-2.269	.023†
SSQoL_memory and thinking	100.0	11.68	96.4	15.22	-0.851	.395
SSQoL_emotions	91.6	17.13	94.4	16.52	-1.649	.099
SSQoL_communication	100.0	9.14	100.0	5.68	-0.281	.779
SSQoL_mobility	100.0	7.54	100.0	6.27	-0.696	.487
SSQoL_ADL/IADL	100.0	12.57	97.2	13.82	-1.205	.228
SSQoL_hand function	100.0	21.79	100.0	18.53	-0.140	.889
SSQoL_social participation	100.0	17.04	100.0	19.13	-0.918	.358
SSQoL_general health condition	85.0	17.45	90.0	14.40	-0.615	.539
GDS	1.0	3.19	2.0	3.82	-1.390	.164
smRS	1.0	0.85	0.0	0.72	-1.721	.085

*Wilcoxon test

†p<.05, statistically significant different between T1 and T2

ADL, activities of daily living; GDS, Geriatric Depression Scale; IADL, instrumental activities of daily living; smRS, simplified modified Rankin Scale; SSQoL, Stroke Specific Quality of Life.

and delivery of telecare to further enhance its impact on patient outcomes. The findings from this study suggest that with continued development, telecare could become an integral component of post-stroke care, potentially reducing healthcare costs and improving the quality of life for stroke survivors on a broader scale.

Contributors AKCW and FKYW designed the study. RMW, BMKY, CSF, STC and VWYK recruited participants and collected data. AKCW and RMW performed the data extraction and engineering for the project. AKCW, RMW, FKYW, BMKY, CSF, STC and VWYK contributed via discussions and in reviewing the manuscript. AW is the guarantor.

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Patient consent for publication Consent obtained directly from patient(s).

Ethics approval This study involves human participants and was approved by the ethical approval for this study and was sought from the Human Ethics Committee of the Hong Kong Polytechnic University (approval no: HSEARS20210714004) and the ethics committees of the hospital (approval no: KC/KE-21-0139/ER-2). Participants gave informed consent to participate in the study before taking part.

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