



Article

A scoping review of psychoeducational interventions for people after transient ischemic attack and minor stroke

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Table 2. Study methods and participant characteristics of included studies.

Study ID	[1] Allen, 2009	[2] Boss, 2014	[3] Byers, 2010	[4] Damush, 2011	[5] Faulkner, 2015	[6] Faulkner, 2017	[7] Gilham, 2010	[8] Green, 2007
Rationale and aims	To compare comprehensive interdisciplinary post-discharge stroke care management to organised stroke department enhanced discharge planning.	To investigate the feasibility and safety of a post-stroke care with exercise program.	To develop and evaluate an enhanced method of teaching stroke education in an acute setting.	To test the feasibility and effectiveness of a stroke-specific self-management intervention on functioning and quality of life.	To assess the effects of a post-stroke exercise and education program on short- and long-term psychosocial health outcomes.	To assess the long-term effects of a post-stroke exercise and education program on clinical outcome measures and costs associated with hospital admissions.	To evaluate the significance of enhanced secondary prevention on readiness to change health behaviour post-stroke compared to conventional secondary prevention.	To examine the impact of one-to-one nurse/patient interviews on the stroke knowledge and behaviour change.
Design/ Allocation	RCT, block sequence randomisation. Allocation through sealed envelopes.	RCT, allocation sequence generated by coin tossing. Randomisation through sealed envelopes.	RCT, randomisation conducted using birth date.	RCT, block randomisation stratified by site and inpatient rehabilitation.	RCT, parallel group. Randomised by computer generator.	RCT.	RCT, block randomisation was stratified and completed using computer generated codes.	RCT, allocation through sealed envelopes.
Blinding	Not reported.	Single-blinded.	Not reported.	Assessors were blind to treatment assignment.	Participants and programme practitioner were aware of allocation. Outcome assessors were blind to allocation.	Not reported.	Single-blinded.	Participants and study coordinator were aware of allocation.
Duration	6 months	12 months	1 month	6 months	12 months	3.5 years	3 months	3 months
Setting	Home-based. USA.	Specialised stroke unit. Netherlands.	Suburban tertiary care hospital. USA.	Two Veteran hospitals. USA.	Hospital and academic institution. New Zealand.	Hospital records. New Zealand	Outpatient clinic at district hospital. UK.	Ambulatory stroke prevention clinic. Canada.
Participant numbers & demographics	Diagnosis: Minor stroke, NIHSS ≥ 1 n = 380 (190 in each group) Age: Intervention group mean = 68 years; Control group mean = 69 years Gender: Intervention group = 48 men; Control group = 52 men Type of stroke: Ischaemic (n = 380) Stroke severity: Intervention NIHSS mean = 2.0; Control NIHSS mean = 1.7	Diagnosis: TIA/Minor stroke, NIHSS ≤ 3 n = 20 (10 in each group) Age: Intervention group mean = 62.4 years; Control group mean = 63 years Gender: Intervention group = 7 men; Control group = 7 men Type of stroke: TIA (Intervention n = 5, Control n = 7)	Diagnosis: TIA/Ischaemic stroke, NIHSS ≤ 15 n = 20 randomised Age: Intervention group mean = 58.2 years; Control group mean = 58.1 years Gender: Intervention group = 3 men, 2 women; Control group = 4 men, 4 women. Stroke severity: Intervention NIHSS mean = 2.0; Control NIHSS mean = 1.0	Diagnosis: Stroke n = 63 (Intervention n = 30; Control n = 33) Age: Intervention group mean = 67.3 years; Control group mean = 64 years Gender: Intervention group = 30 men; Control group = 32 men, 1 woman Stroke severity: Intervention NIHSS mean = 3.27; Control NIHSS mean = 3.33	Diagnosis: TIA/Mild stroke, within 7 days of onset n = 60 (30 in each group) Age: Intervention group mean = 65 (± 11) years; Control group mean = 68 (± 10) years Gender: Intervention group = 15 men, 12 women; Control group = 14 men, 14 women Type of stroke: TIA (Intervention n = 16, Control n = 17); Mild stroke (Intervention n = 11, Control n = 11)	Diagnosis: TIA/Minor stroke, within 2 weeks of onset n = 60 (30 in each group) Age: Intervention group mean = 68 (± 11) years; Control group mean = 69 (± 10) years Gender: Intervention group = 16 men, 14 women; Control group = 15 men, 15 women Type of stroke: TIA (Intervention n = 2, Control n = 6); Minor stroke (Intervention n = 1, Control n = 5) History: No previous TIA/stroke	Diagnosis: TIA/Minor stroke n = 52 (26 in each group) Age: Intervention group mean = 67.7 years; Control group mean = 68.9 years Gender: 15 women, 37 men History: No previous TIA/stroke	Diagnosis: TIA/Minor stroke, MMSE score >24 n = 200 (100 in each group) Age: Intervention group mean = 66.26 years; Control group mean = 67.24 years Gender: Intervention group = 41 women; Control group = 41 women Previous TIA/stroke: Intervention group n = 26; Control group n = 30
Inclusion criteria	1. Diagnosis of ischemic stroke. 2. NIHSS score ≥ 1 3. Discharged to home from the acute care hospital or discharged to home within 8 weeks from a short-term nursing or rehabilitation facility 4. Live within 25 miles 5. Have no other illness that would affect post-stroke care 6. Speak English. 7. Do not have an endarterectomy planned	1. Aged 18 years or over. 2. NIHSS score ≤ 3 . 3. Experienced the onset of symptoms less than 1 month ago 4. Can walk independently 5. Discharged without need for further rehabilitation	1. Diagnosis of ischaemic stroke/TIA 2. Aged between 18-90 years old 3. NIHSS scores ≤ 15 4. MMSE score ≥ 20 5. Have a family member/significant other able to participate	1. Diagnosis of ischaemic stroke within the previous month 2. Aged 18 years or over 3. Able to communicate and understand English 4. No severe cognitive impairments 5. Willing to attend follow-ups 6. Access to telephone 7. Have a life expectancy of at least 12 months	1. Diagnosis of TIA/mild stroke within 7 days of onset	1. Diagnosed with first TIA or minor stroke 2. Lived within the local district health board catchment	1. Diagnosed with first TIA/minor stroke	1. MMSE score >24 . 2. Able to speak and read English 3. Able to complete questionnaires in-person and over the phone 4. Able to attend a lifestyle class 5. Can provide informed consent

Exclusion criteria	Not detailed.	<ol style="list-style-type: none"> 1. Diagnosis of dementia 2. MMSE score <24 3. Aphasia, or unable to speak Dutch 4. Cardiopulmonary contraindication for physical exercise and exercise testing 5. Have a chronic disease with an expected survival of less than 2 years 	<ol style="list-style-type: none"> 1. Diagnosis of haemorrhagic stroke or coma 2. NIHSS >15 3. Unable to speak English 4. Unable to commit to a 1-month follow-up 	<ol style="list-style-type: none"> 1. Significant language difficulties 2. Severe dementia or other cognitive impairments 	<ol style="list-style-type: none"> 1. Have an unstable cardiac condition 2. Have uncontrolled diabetes 3. Have severe claudication 4. Oxygen dependence 5. Severe dementia 6. Unable to participate in exercise 7. Unable to speak English 	<ol style="list-style-type: none"> 1. Have an unstable cardiac condition 2. Have uncontrolled diabetes 3. Have severe claudication 4. Oxygen dependence 5. Severe dementia 6. Unable to participate in exercise 7. Unable to speak English 	Not detailed.	<ol style="list-style-type: none"> 1. Unable to understand English 2. Have significant cognitive impairment 3. Unable to attend a lifestyle class 4. Unable to provide informed consent
Control group	<p>Usual post-discharge care from their primary care physician.</p> <p>Both groups received a discharge pack, including discharge plans and stroke risk factor lists, from their hospital.</p>	Usual post-TIA/minor stroke care, which involved two-to-three outpatient clinic visits.	Standard post-stroke information (verbal and written) at discharge.	<p>Written stroke education materials.</p> <p>Leaflets with schedule of telephone calls for follow-ups.</p>	Standard secondary prevention and educational information materials provided at discharge.	Usual pharmacological management care.	No additional secondary prevention advice.	Standard stroke prevention discussion in clinic and widely available education materials.
Dropouts	Dropouts n=0	Dropouts n = 2 Lack of motivation n = 1 Cardiac complaints n = 1	Dropouts n = 7 Hospital admission n = 2 Lost to contact n = 5	Dropouts n = 3 Lost to contact n = 1 Withdrew consent n = 1 Discharged to other service n = 1	Dropouts n = 5 Diagnosis of depression n = 2 Migration n = 1 Lack of time n = 1 Death n = 1	Dropouts n = 9 Death n = 1 Diagnosis of depression n = 2 Lack of time n = 4 Migration n = 1 Uncontrolled atrial fibrillation n = 1	Dropouts n = 2 Hospital admission n = 1 Hearing difficulties n = 1	Dropouts n = 36 Discontinued intervention n = 21 Withdrew consent n = 3 Withdrew due to illness n = 4 Death n = 1 Did not meet study criteria n = 4 Randomised in illness n = 3

Table 2. Continued.

Study ID	[9] Herron, 2017	[10] Heron, 2019	[11] Rochette, 2013	[12] Sajatovic, 2018	[13] Wang, 2013	[14] Wolf, 2016	[15] Wolf, 2017
Rationale and aims	To evaluate the feasibility of conducting a trial of an adapted home-based cardiac rehabilitation programme, 'The Healthy Brain Rehabilitation Manual', for patients following a TIA/minor stroke, participants' views on the intervention and, to identify the behaviour change techniques (BCTs) used.	To pilot a randomised controlled trial of a novel home-based prevention programme ('The Healthy Brain Rehabilitation Manual') for patients with TIA or 'minor' stroke.	To determine whether a low-cost, multimodal support intervention (WE CALL) offered for 6 months would be effective compared to the availability of a resource person (YOU CALL) for 6 months, in TIA/minor stroke patients.	To evaluate the effectiveness of a novel Behavioral Targeted Management Intervention (TEAM) vs. usual care in African American (AA) men with TIA or minor stroke.	To evaluate whether patients with mild stroke who received a community-based stroke nursing education and rehabilitation programme had better knowledge, behaviour and self-efficacy compared with those who were exposed to traditional education programmes in hospital setting.	To evaluate the Improving Participation after Stroke Self-Management Program (IPASS) in improving self-efficacy and participation in everyday life activities for individuals living with the long-term consequences of stroke.	To evaluate the feasibility and effect of the Chronic Disease Self-Management Program (CDSMP) for people after mild stroke.
Design/ Allocation	RCT. Computer generated randomisation.	RCT. Random allocation through sealed envelopes.	RCT. Random allocation.	RCT. Computer generated randomisation.	RCT. Random cluster sampling	RCT. Block randomisation.	RCT. Random number generator.
Blinding	Not blinded.	Single-blinded trial. Research nurse, blinded to intervention allocation, undertook post-intervention assessments.	Single-blinded trial.	Not blinded.	Not blinded.	Single-blinded trial. Assessor blinded.	Single-blinded trial. Assessor blinded.
Duration	6 weeks	12 weeks	12 months	6 months	6 months	9 months	6 months
Setting	Patients attending TIA/ 'minor' stroke assessment hospital clinics in Belfast	'Drop-in' TIA clinics and outpatient clinics in four TIA/ 'minor' stroke assessment units in different Northern Ireland Health and Social Care Trusts.	11 acute care hospitals located in urban and rural areas across 4 Canadian provinces.	The clinical practices of study investigators at 2 large academic medical centres. USA	Outpatients of the neurology department of Chung Shan Medical University Hospital. Seven municipal communities. Taiwan	Two University settings both with relationships to free-standing rehabilitation hospitals. USA	Home based. University-affiliated acute care hospital. USA
Participant numbers & demographics	Diagnosis: TIA/minor stroke n = 15 Age: Group 1 Control mean = 76.2; Group 2 Intervention manual = 67.8; Group 3 Intervention manual + pedometer = 63 Gender: Group 1 Control Male = 4; Female = 1 Group 2 Intervention manual Male = 4 Female = 1 Group 3 Intervention manual + pedometer Male = 2 Female = 3 Type of stroke: Group 1 Control TIA = 1 Minor stroke = 4 Group 2 Intervention manual TIA = 4 Minor stroke = 1 Group 3 Intervention manual + pedometer TIA = 4 Minor stroke = 1	Diagnosis: TIA/Minor stroke, within 4 weeks of onset n = 40 (GP Intervention n = 14; Stroke nurse Intervention n = 14; Control n = 12) Age: GP Intervention group mean = 65.71 years; Stroke nurse Intervention group mean = 63.29 years; Control group mean = 69.67 years Gender: GP Intervention group = 9 men, 5 women; Stroke nurse Intervention group = 7 men, 7 women; Control group = 8 men, 4 women Type of stroke: TIA n = 27 (n=6 control) Minor stroke n = 13 (n= 6 control)	Diagnosis: Mild stroke defined as a score >8.5/11.5 on the Canadian Neurological Scale or a modified Rankin Score between 0 and 2. n = 186 Age (mean): Total sample= 62.5 Control = 63.2 Intervention = 61.7 Gender: Total= 79 Female Control= 44 Female Intervention = 35 Female Type of stroke: Ischaemic = 172 (92.5%) Haemorrhagic = 10 (5.4%) Other = 4 (2.1%)	Diagnosis: AA men with TIA within the past 5 years or minor stroke defined as Barthel Index score of >60 n = 38 (Intervention n = 19, Control n = 19) Age: Mean = 52.1 Gender: 38 male (100%) Type of stroke: TIA n=19 Ischaemic stroke n = 19	Diagnosis: Minor stroke confirmed by positive findings on CT or MRI of the head, score greater than or equal to 65 on the Barthel Index n = total =170, Intervention n=65 Age: Control: 67.2 (SD = 10.4) Intervention: 67.3 Gender: Control: n=40 male, n=22 female Intervention: n=43 male, n=22 female Type of stroke: Ischaemic n = 50 Haemorrhagic n = 15	Diagnosis: mild or moderate stroke (i.e., NIH stroke score ≤ 16) n = 185 Age: Control: 59 (45-80) Intervention: 57 (32-93) Gender: Control: male n=15, female n=16 Intervention: male n=31, female n=35 Stroke severity: NIHSS (mean) Control: 4.8 (1-12) Intervention: 4.7 (1-12)	Diagnosis: Minor stroke Definition: a mild stroke as NIHSS total scores 0-5 n = 71 Age (mean): Control = 62.65 Intervention = 57.67 Gender: Control: female n=14, male n=13 Intervention: female n=9, male n=9
Inclusion criteria	1. Aged 18 years or older 2. Within 4 weeks of their first symptoms of a TIA or 'mild' stroke. 3. Using the TOAST classification system only TIAs and 'minor' strokes attributed to atherosclerosis or small vessel occlusion were included	1. Aged 18 years or older 2. Within 4 weeks of their first TIA or 'mild' stroke symptoms, with diagnoses attributed to atherosclerosis or small vessel occlusion	1. Adults who sustained a first mild stroke defined as a score >8.5/11.5 on the Canadian Neurological Scale or a modified Rankin Score between 0 and 2 on admission 2. Discharged home within 3 weeks of the index event 3. Telephone access 4. Ability to understand basic instructions and express basic needs. 5. Ability to communicate in English or French	1. Self-identified African American (AA) male 2. Aged over 65 years 3. Planned or recent home discharge 4. Barthel Index (BI) score of >60	1. Score ≥ 20 on the Mini Mental State Examination 2. No history of psychiatric illness 3. Score ≥65 on the Barthel Index, which references performance of the basic activities of daily living	1. Aged 18 years or older 2. Mild or moderate stroke (i.e., NIHSS ≤16) 3. At least 3 months post-stroke 4. Reside in a community-based setting 5. Completed initial acute/rehabilitation care	1. Mild stroke as NIHSS total scores 0-5 2. English speaking 3. Individuals greater than 18 years of age; and 4. Identified as having at least one chronic condition (Work Ability Index survey)

Exclusion criteria	<ol style="list-style-type: none"> 1. Unstable cardiac conditions 2. Contra-indications for exercise training by screening patients using the Physical Activity Readiness Questionnaire (PAR-Q) 3. Unable to give informed consent 4. Had a previous cerebrovascular event 	<ol style="list-style-type: none"> 1. Unstable cardiac conditions 2. Contraindications for exercise training or a previous cerebrovascular event were excluded 	<ol style="list-style-type: none"> 1. Individuals with moderate or severe cognitive deficits (based on clinical judgement) 2. Those who experienced another stroke before baseline measures were completed were excluded 	<ol style="list-style-type: none"> 1. AA men unwilling or unable to provide informed consent 	<ol style="list-style-type: none"> 1. Participants could not have severe language and hearing impairments that could interfere with evaluation interviews 	<ol style="list-style-type: none"> 1. Not medically stable 2. Were moderately or severely cognitively impaired (i.e., short blessed cognitive test score >8) 3. Had severe aphasia (i.e., Boston diagnostic aphasia exam score <9; 15 item Boston naming test <10) 	<ol style="list-style-type: none"> 1. Severe aphasia (NIHSS aphasia score=2) 2. Moderate to severe cognitive impairment (Montreal Cognitive Assessment (MOCA) Score <21) 3. History of dementia 4. Haemorrhagic stroke 5. Neurological diagnoses other than stroke 6. Major psychiatric illness 7. Terminal illness 8. Score of no-higher than 20 on the PHQ-9 indicating significant depressive symptoms 9. Aged over 90 years
Control group	Current standard post-TIA/minor stroke care as per current UK guidelines.	Standard post-TIA/minor stroke care. Follow-up calls from a GP.	Standard of care – contact with medical staff initiated by patients themselves (YOU CALL).	Treatment with regular medical care providers. Beyond follow-up research assessments at the same time points as TEAM, there was no interaction between the participants and the research team.	Normal care group.	Control group started a 12-week waiting period and did not receive any active research intervention at this time. Participants completed another baseline assessment following this 12-week wait, prior to being scheduled to complete the IPASS.	Control group did not receive any active intervention as a part of this study, but they were offered the opportunity to complete the CDSMP after their participation in this study had ended.
Dropouts	Dropouts n = 0	Dropouts n = 1 (work commitments)	Dropouts n = 84 6-month follow up – n=37 unreachable 12-month follow up - n=47 unreachable	There were 28 individuals (14 in TEAM and 14 in TAU) able to be assessed at 12-weeks and 28 individuals (14 in TEAM and 14 in TAU) able to be assessed at 24-weeks. Drop-out at 24-weeks was 26.3%.	Dropouts n = 43 n = 20 in intervention group n = 23 in control group	Dropouts n = 19 Seven from the immediate intervention group and 12 from the wait list group were lost during the 6- to 9-month period.	Dropouts n = 22 Control: medical withdrawal n =1 lost to follow-up n=8 Intervention: voluntary withdrawal n =10 lost to 6m follow-up n=3

Table 3. Intervention details of included studies.

Study ID	[1] Allen, 2009	[2] Boss, 2014	[3] Byers, 2010	[4] Damush, 2011	[5] Faulkner, 2015	[6] Faulkner, 2017	[7] Gilham, 2010	[8] Green, 2007
Brief name	Post-stroke care management model	MotiveS and MoveIT	Enhanced education group	Stroke self-management programme	Early exercise engagement with education	Long-term effects of exercise and education programme	Enhanced secondary prevention	Education-Counselling Interview (ECI)
Components of intervention	<ul style="list-style-type: none"> • Home visits from a physical therapist when required. • Aids to help with medication adherence. • Social service plans to help maximise quality of life. • Monitoring for common post-stroke complications. • Personalised health record. • Education about lifestyle modification and stroke warning signs. 	<ul style="list-style-type: none"> • 3 one-hour aerobic exercise and strength training sessions a week for 8 weeks. • Participants were then seen every 3 months at an outpatient clinic where the view was maintaining an active lifestyle. 	<ul style="list-style-type: none"> • Enhanced stroke education delivered through motivation interviewing • Individualised verbal and written information which included a sheet detailing diagnosis, its impact on recovery, current medication, and what to expect upon discharge. • Collaborative approach between patient, caregiver and healthcare provider. 	<ul style="list-style-type: none"> • Telephone-based stroke management programme. • Each session covered self-management topics including recovering from stroke, adapting to stroke-related disability, and understanding the warning signs of future stroke. • Participants were coached to choose one or more goals per session to target. • Follow-up telephone calls provided individualised feedback about goal progress. 	<ul style="list-style-type: none"> • Twice-weekly exercise and education programme, delivered across 8 weeks. • Two 90-minute exercise sessions and one 30-min education session. • Each exercise session contained 30 minutes of aerobic exercise and 60 minutes resistance training. • Education sessions focused on stroke prevention, emotional/behavioural changes post-TIA, and risk factors. 	<ul style="list-style-type: none"> • 8-week exercise and education programme. • Employed within 2-weeks after TIA/minor stroke. 	<ul style="list-style-type: none"> • Enhanced secondary prevention support. • Information about stroke pathology and risk factors. • Discussion about behaviour change intentions • If appropriate, a plan to help behaviour change. • Telephone support and follow-up to discuss progress. 	<ul style="list-style-type: none"> • One-to-one ECI, led by nurse, conducted in a stroke prevention clinic visit. • ECI lasted 15- to 20-minutes. • Content was specific to participants' lifestyle and personal stroke risk factors. • Motivational interviewing was employed to help identify health behaviours which needed to change and set goals which would help promote that change. • Participants were invited to attend a 3-hour lifestyle class. • Class provided education about risk factors, management, and the importance of health living. • Participants received a manual with the information covered.
Who provided (and/or set up device)	APN-CN (advanced practice nurse care manager)	Specialist physiotherapists	Discharge educator trained by research team in motivational interviewing techniques.	Nurse, physician assistant and a master level social scientist. All had received 18 hours of standardised training.	Health and exercise practitioners	Not reported.	Researcher	Study nurse
Procedures and how it was delivered	<ul style="list-style-type: none"> • The APN-CM made home visits to conduct an assessment within 1-week post-discharge. • Standard post-stroke education and intervention protocols were implemented during the visit. • Results of the assessment were reviewed by an interdisciplinary post-stroke consultation team. • The team developed patient-specific care plan and communicated this to 	<ul style="list-style-type: none"> • An 8-week exercise course was delivered through 3 one-hour sessions per week. • 2 specialised physiotherapists delivered the course. • Content focused on aerobic exercise and strength training, with the intensity of the exercise increased as the course progressed. • Exercise intensity was decided on the maximum heart rate and power achieved during a maximum exercise test. • Following course, participants visited a 	<ul style="list-style-type: none"> • At point of discharge, participants were given written and verbal education by the trained educator, whilst their caregiver was present. • Motivational interviewing was used to initiate a collaborative approach between the participant, caregiver and healthcare provider. 	<ul style="list-style-type: none"> • 12-week programme following discharge. • Programme delivered through 6 biweekly telephone sessions with educator. • Educator followed written standardised manual. • Sessions covered stroke education and self-management. • Educator helped participants set achievable goals to promote self-efficacy and behaviour change. • Each session provided individualised 	<ul style="list-style-type: none"> • Exercise sessions were 30 minutes of aerobic exercise and 60 minutes of resistance training. • Aerobic exercise was 15 minutes of cycling and 15 minutes of treadmill. • Resistance training involved alternate bicep curls, shoulder press and squats. • Education sessions involved didactic group discussions. • Sessions were designed to enable health and exercise 	Not reported.	<ul style="list-style-type: none"> • Face-to-face discussion about secondary prevention and behaviour change intentions. • Discussion in style of motivational interviewing. • Telephone support provided by research team and focused on progress of behaviour changes. 	<ul style="list-style-type: none"> • 15-20-minute ECI was incorporated into the standard nursing element of stroke prevention the clinic visit. • Lifestyle class was coordinated to occur within 1-2 months of clinic visit. • 3-hour lifestyle class had 50-75 members. • Class was led by nurse, nutritionist and social worker. • Participants who attended lifestyle class completed measures

	<p>the patient's primary care physician.</p> <ul style="list-style-type: none"> The APN-CM worked alongside the patient's care team to implement the care plans and provide ongoing face-to-face and telephone support for the next 6 months. 	<p>physiotherapist at an outpatient clinic every 3 months until the 12-month follow-up.</p>		<p>feedback on goal progress.</p> <ul style="list-style-type: none"> Follow-up measures completed by telephone at 3- and 6-months. 	<p>practitioners to teach, discuss and reinforce healthy behavior changes.</p> <ul style="list-style-type: none"> Follow-ups at 8 weeks and 12 months. 			<p>by telephone 24-to-48 hours after class.</p> <ul style="list-style-type: none"> Data measures completed from all participants collected pre-and post-ECI, and by telephone at 3-month follow-up.
Frequency, duration, intensity and fidelity of implementation	<ul style="list-style-type: none"> Minimum telephone contact of once a week for 1st month post-discharge, then once a month until end of the 6-month study. 	<ul style="list-style-type: none"> 8-week exercise programme, with sessions once a week. Outpatient clinic visits every 3 months after until the final 12-month assessment. 	<ul style="list-style-type: none"> Each participant received a block time of 45 minutes. Follow-up survey 1 month after discharge. 	<ul style="list-style-type: none"> Six biweekly telephone sessions, lasting on average 20 minutes. Booster call at 4.5 months. Follow-up interviews conducted at 3 and 6 months. 	<ul style="list-style-type: none"> Two 90-minute exercise sessions and one 30-min education session per weeks for 8 weeks. Follow-up at 8 weeks and 12 months post-intervention. 	<ul style="list-style-type: none"> 8-week programme. 12 months follow-up assessment. Follow-up clinical outcomes 3.5 years post-intervention. 	<ul style="list-style-type: none"> Telephone follow-up at 2- and 6-weeks post-intervention. Final telephone follow-up 3 months post-intervention. 	<ul style="list-style-type: none"> ECI lasted 15- to 20-minutes. Lifestyle class lasted 3 hours. Measures completed immediately pre-and post-ECI. Follow-up measures at 3-months by telephone. Lifestyle class attendees completed measures by telephone 24-to-48 hours after the class.
Tailoring and modifications	<p>Care plans individualised as needed.</p>	<p>Not reported.</p>	<p>Education information and sheets were individualised.</p>	<ul style="list-style-type: none"> Goals were individualised. Programme delivered face to face for those with hearing difficulties. 	<p>Not reported.</p>	<p>Not reported.</p>	<p>Not reported.</p>	<p>ECI content and goals were individualised.</p>
Comparator intervention(s)	<p>Standard organised acute stroke department care with enhance discharge planning.</p>	<p>Post-stroke care programme without exercise component. Outpatient clinic visits with focus on changing lifestyle factors.</p>	<p>Stroke education information given at point of discharge verbally and through written handouts.</p>	<p>Placebo programme. Telephone calls simply asked how the participant was doing.</p>	<p>Standard secondary prevention and educational information provided by the hospital.</p>	<p>Usual care (pharmacological management).</p>	<p>Advice provided during standard care.</p>	<p>Standard care provided by stroke prevention clinic.</p>

Table 3. Continued.

Study ID	[9] Heron, 2017	[10] Herron, 2019B	[11] Rochette, 2013	[12] Sajatovic, 2018	[13] Wang, 2013	[14] Wolf, 2016	[15] Wolf, 2017
Brief name	The <i>Healthy Brain Rehabilitation Manual</i> with GP follow-up	The <i>Healthy Brain Rehabilitation Manual</i> with GP or Stroke nurse follow-ups	Low-cost, multimodal support intervention (WE CALL).	Behavioral Targeted Management Intervention (TEAM).	A community-based stroke nursing education and rehabilitation programme.	Improving Participation after Stroke Self-Management Program (IPASS).	Chronic Disease Self-Management Program (CDSMP).
Components of intervention	<ul style="list-style-type: none"> The <i>Healthy Brain Rehabilitation Manual</i> contained medical and social information about TIAs/minor strokes and how to set goals and action plans for changing certain aspects of their lives. Sections focusing on topics relevant to cardiovascular risk (smoking, physical and sexual activity, mental health issues (primarily anxiety and depression), community resources (e.g. smoking cessation support; exercise classes), diet and secondary prevention medication). Manual was supported with telephone follow-up by a health professional, a GP. 	<ul style="list-style-type: none"> The <i>Healthy Brain Rehabilitation Manual</i> included TIA/stroke information and a stroke risk reduction plan (see Heron, 2017 for detail). Promoted a healthy lifestyle and set pedometer goals. One version of intervention included standard post-stroke care, the manual, and a GP telephone follow-up. Another version included standard post-stroke care, the manual and a stroke nurse telephone follow-up. 	<ul style="list-style-type: none"> WE CALL participants received a multimodal (telephone, Internet, and paper) support intervention. Telephone interactions focused on any new or ongoing issues, as well as 6 key areas, including family functioning and individualized risk factors. 	<ul style="list-style-type: none"> TEAM is informed by principles of social cognitive theory. Key components known to be critical for successful post-stroke care include content focused on patient and care partner needs, practice in problem-solving, and attention to emotional and role management. Telephone sessions were between the African American (AA) stroke survivor/TIA patient and Peer Educator or Nurse Educator. Calls reinforced content from the group sessions, served as a behavioural model, provided social support, and facilitated linkage with other care providers. 	<ul style="list-style-type: none"> Intervention and counselling programme comprised of two stroke educational sessions, communication seminars, alternating with patient support groups. Contents of the two-session stroke education consisted of lectures regarding warning signs, clinical manifestations, risk factors of stroke, diet, social activities and rehabilitation. Education section 1: Warning signs, Risk factors, Diet Education section 2: Social activities, Rehabilitation, Communication section, Support group section 	<ul style="list-style-type: none"> The program used a structured efficacy building process that focused on medical, emotional, role, and participation management to guide participants to develop skills related to problem-solving, decision-making, resource utilization, client/provider/service partnerships, action planning, and self-tailoring over time. For the seven stroke-specific sessions, the IPASS model was utilised to guide the efficacy building process. 	<ul style="list-style-type: none"> The CDSMP is an education program based on the concept of self-management. The CDSMP is focused on three primary goals: medical management; role management; and emotional management.
Who provided (and/or set up device)	Author, who was a GP, trained to deliver follow-up and provide advice about the manual.	GP and stroke nurse	Trained healthcare professional (THCP)	<ul style="list-style-type: none"> Investigators trained 2 Peer Dyads (AA men who had a stroke/TIA and their care partners) to provide support and model behaviors intended to improve post-stroke care. Delivered alongside Stroke Nurse Educator 	At each location, there were different educators, who were consistently trained in this programme, provided the same intervention for each location.	Sessions facilitated by an occupational therapist(s) and/or a peer facilitator with stroke (depending on availability) who has completed the chronic disease self-management program (CDSMP) facilitator training.	The CDSMP was delivered by two licensed occupational therapists who were certified facilitators.
Procedures and how it was delivered	<ul style="list-style-type: none"> During the initial meeting/telephone contacts trainer used motivational interviewing techniques, guided by the theory of planned behaviour and adopting the '5 As' approach to behaviour change. Group 1, telephoned at 1 and 4 weeks to answer any questions regarding their care or manual Group 3, trainer encouraged participants to self-set step count targets. 	<ul style="list-style-type: none"> Hospital or home-based assessments conducted by research team. Manual provided within first 4 weeks of TIA/minor stroke. Telephone follow-up calls made by either GP or stroke nurse at 1,4 and 9 weeks, about any concerns regarding care. Home-based follow-up assessment conducted at 12 weeks. 	<ul style="list-style-type: none"> Multimodal (telephone, Internet, and paper). Additional written information on stroke management was provided as needed (by regular mail, e-mail, or Internet). Participants were referred to local community services as necessary and directed to their family doctor when they experienced health problems. 	<ul style="list-style-type: none"> Seven brief home telephone sessions implemented over 6 months, to coincide with the 1:1, group sessions, follow-up visits. Telephone sessions were between the AA stroke survivor/TIA patient and Peer or Nurse Educator. Group sessions co-led by the Nurse Educator and Peer Dyad, using a detailed curriculum with semi-formal scripting. 	<ul style="list-style-type: none"> Lectures Demonstrations Discussion/sharing sessions 	<ul style="list-style-type: none"> Patients learned three different strategies (i.e. change the person, change the activity, and/or change the environment) to utilize to manage and support their participation in daily life. Location not mentioned other than different study sites. 	<ul style="list-style-type: none"> Face to face classes and sessions. Location not clear.

Frequency, duration, intensity and fidelity of implementation	<ul style="list-style-type: none"> • Telephone calls conducted at 1 and 4 weeks for all participants. • No monitoring of the fidelity of these contacts was undertaken. • Follow-up assessment at 6 weeks. 	<ul style="list-style-type: none"> • Telephone calls conducted at 1,4 and 9 weeks. • Hospital or home-based follow-up at 12 weeks. 	<ul style="list-style-type: none"> • Call frequency as initiated by the trained healthcare professional was weekly for the first 2 months, biweekly during the third month, and monthly for the past 3 months. • The intervention content, including topics addressed and interventions provided during each WE CALL contact, was documented by the trained healthcare professional. • The duration of each telephone contact and the total number of contacts were recorded. 	<ul style="list-style-type: none"> • 60-minute initial 1:1 session, in which the Nurse Educator and Peer Dyad met with the stroke/TIA survivor • Four 60-minute group sessions with 6–7 AA stroke/TIA survivors • Sessions 2, 3 and 4 were held approximately 15, 30, and 60 days after the initial session. • Fidelity was assessed at each session by non-interventionist study staff both quantitatively and qualitatively. • Non-interventionist study staff assessed each TEAM group with each fidelity dimension being rated on a 1–10 scale. 	<ul style="list-style-type: none"> • This programme was scheduled three times per week for 8 weeks, each session lasting 2 hours. 	<ul style="list-style-type: none"> • The intervention was delivered to small groups of 6–7 participants at a time across 12 sessions. 	<ul style="list-style-type: none"> • CDSMP participants were scheduled to complete the intervention at the next available group session, typically scheduled at the start of the next calendar month following baseline testing. • The intervention sessions were two hours long, once a week, for six weeks.
Tailoring and modifications	<p>Not reported.</p>	<p>Intervention goals were individually tailored.</p>	<ul style="list-style-type: none"> • If the participant expressed concerns about specific area, the content of the discussion was noted, and any intervention provided. • Additional written information on stroke management was provided as needed (by regular mail, e-mail, or Internet). 	<p>Not reported.</p>	<p>Not reported.</p>	<p>Not reported.</p>	<p>Not reported.</p>
Comparator interventions	<p>Current standard post-TIA/minor stroke care as per current UK guidelines, with GP phone call to discuss their care at 1 and 4 weeks.</p>	<p>Current standard post-TIA/minor stroke care as per current UK guidelines, with GP phone call to discuss their care at 1, 4 and 9 weeks.</p>	<p>YOU CALL – participants provided with the name and phone number of THCP to contact at any time. THCP was told not to probe for further information but to answer queries initiated by participant.</p>	<p>Treatment as usual (TAU) - Individuals in TAU continued treatment with their regular medical care providers.</p>	<p>Normal care group.</p>	<p>12 week waiting period, no active intervention. Following 12 week wait, received IPASS intervention.</p>	<p>Post-discharge rehabilitation services recommended by treating physician. Offered CDSMP after they had completed the study.</p>

Table 4. Outcomes reported by included studies.

	[1] Allen, 2019	[2] Boss, 2014	[3] Byers, 2010	[4] Damush, 2011	[5] Faulkner, 2015	[6] Faulkner, 2017	[7] Gilham, 2010	[8] Green, 2007
Primary Outcomes	<ol style="list-style-type: none"> 1. Neuromotor function using NIHSS, Time Up and Go test and a physical performance test 2. Institution time and death 	<ol style="list-style-type: none"> 1. Safety and feasibility 2. Maximal exercise capacity 	<ol style="list-style-type: none"> 1. Stroke Knowledge (20 multiple choice questions to evaluate stroke knowledge) 	<ol style="list-style-type: none"> 1. Stroke specific quality of life (SS- QOL) 	<ol style="list-style-type: none"> 1. Psychosocial measures: SF36, HADS, Profile of Mood States 2. International Physical Activity Questionnaire (IPAQ) 3. Stanford Medical centre Stroke Awareness Questionnaire 	<ol style="list-style-type: none"> 1. Death 2. Myocardial infarction 3. Unstable angina 4. Vascular surgery, carotid endarterectomy, angiogram, ischaemic heart disease, peripheral vascular disease, congestive heart failure and hospital admissions 	<ol style="list-style-type: none"> 1. Scale of readiness to change health behaviour after stroke validated and adapted by Miller from a health behaviour questionnaire designed by Rollnick 	<ol style="list-style-type: none"> 1. Knowledge acquisition and retention, as measured, 43-item, self-report survey questionnaire from study investigators in the Kansas City Stroke Prevention and Community Education Project
Secondary Outcomes	<ol style="list-style-type: none"> 1. Quality of life Stroke-specific QOL scale 2. Management of risk for common poststroke complications and recurrent stroke. 3. Stroke knowledge and satisfaction (investigator generated questionnaire) 	<ol style="list-style-type: none"> 1. Measure of secondary prevention 2. Rate of smoking cessation 3. Alcohol consumption 4. Medication adherence 5. BMI 6. Waist circumference 	<ol style="list-style-type: none"> 1. Satisfaction survey 	<ol style="list-style-type: none"> 1. Self-management behaviour frequency 2. Self-efficacy 3. Health status 4. Depression (PHQ-9) 	None reported.	None reported.	<ol style="list-style-type: none"> 1. Hospital Anxiety and Depression Scale 2. Self-reported smoking status, alcohol consumption, exercise behaviour and fruit and vegetable consumption 	<ol style="list-style-type: none"> 1. Description of stage of change in relation to risk factor modifications for each lifestyle risk factor identified by the patient Defined lifestyle risk factors as: <ol style="list-style-type: none"> a. Smoking b. Exercise c. Obesity 2. Alcohol intake 3. Stress
Results	* Stroke knowledge and lifestyle modification significant difference at 6 months ($P = 0.0003$).	* Significant decrease ($p=0.037$) in LDL-Cholesterol after 12 months of post-stroke care and exercise, compared to post-stroke care alone.	No significant changes reported.	* Significant worsening in SS-QOL Family roles score ($p \leq 0.06$). * Significant change in SS-QOL social roles scores at first follow-up ($p \leq 0.04$) and 6 months ($p \leq 0.02$) – Intervention group scores improved.	* Significant difference in physical component score at 8 weeks ($p < 0.001$) and 12 months ($p < 0.01$). * Significant difference in global health score at 8 weeks ($p < 0.01$) and 12 months ($p < 0.01$). * Significant difference in physical role score at 12 months ($p < 0.01$). * Significant difference in vitality score at 8 weeks ($p < 0.001$).	* Significantly fewer recurrent stroke/TIAs in intervention group ($P \leq 0.003$).	* Significant improvements in self-reported exercise were demonstrated ($p=0.007$).	* Significant difference between groups from T1 to T3 in stroke knowledge ($p < 0.001$).

Table 4. Continued.

	[9] Heron, 2017	[10] Herron, 2019	[11] Rochette, 2013	[12] Sajatovic, 2018	[13] Wang, 2013	[14] Wolf, 2016	[15] Wolf, 2017
Primary Outcomes	<ol style="list-style-type: none"> Physical activity levels (validated International Physical Activity Questionnaire (IPAQ) questionnaire) Mediterranean Diet Score using a validated questionnaire 2- min walk test Hospital Anxiety and Depression (HADS) questionnaire EQ5D-5 L questionnaire, quality of life, Disability - Modified Rankin scale Prochaska stages of change questionnaire relating to physical activity 	<ol style="list-style-type: none"> Rates of recruitment, retention and completion of outcome measures Height and weight (light clothing; Seca scale, model 799) Waist circumference, Resting blood pressure and heart rate) Physical activity (validated International Physical Activity Questionnaire (IPAQ)) Mediterranean Diet Score using a validated questionnaire. Anxiety and depression (Hospital Anxiety and Depression (HADS) questionnaire) Disability (Modified Rankin scale) Readiness to change Quality of life (EQ5D-5L) Physical activity using pedometer 	<ol style="list-style-type: none"> Unplanned use of health services for an adverse event – Collected daily through a frequency calendar Quality of Life – Quality of Life Index & EuroQol 5D 	<ol style="list-style-type: none"> Self-reported medication treatment adherence with stroke risk-reduction pharmacotherapies - Tablets Routines Questionnaire (TRQ) 	<ol style="list-style-type: none"> Knowledge of stroke – stroke warning signs and medical treatment, risk factors of stroke and dietary knowledge Behaviour – five-point Likert scale questions. Warning signs of stroke, behaviours related to the risk factors of stroke and social participation Self-efficacy towards stroke prevention including dietary control, continuous rehabilitation, physical activities, exercise, positive attitude in social participation, stress management 	<ol style="list-style-type: none"> Chronic disease –Chronic disease self-efficacy scale (CDSES) Participation strategies - Self-efficacy scale (PS-SES) 	<ol style="list-style-type: none"> Health Behaviours – Chronic Disease Self- Efficacy Scale (CDSES) Health status –Adapted illness Intrusiveness Ratings Healthcare Utilization - Health Care Utilization Survey
Secondary Outcomes	None reported.	None reported.	<ol style="list-style-type: none"> Planned use of health services – Collected through frequency calendar Depression – Beck Depression Inventory II (BDI-II) Participation – Assessment of Life Habits (LIFE-H 3.1) 	<ol style="list-style-type: none"> Biologic parameters of stroke risk - measured by serum HbA1c, serum cholesterol and triglycerides, body mass index/BMI) Diet – Diet Habit Survey (DHS) Exercise – International Physical Activity Questionnaire (IPAQ) short form Smoking – Fagerstrom Test for Nicotine Dependence (FTND) Substance use – Addiction Severity Index (ASI) 	None reported.	<ol style="list-style-type: none"> Community participation – Community participation indicators (CPI) Reintegration – Reintegration to normal living (RNL) Activity participation – Activity card sort (ACS) Quality of life –WHO quality of life scale (WHOQOL-BREF) Stroke impact –Stroke impact scale (SIS) 	<ol style="list-style-type: none"> Quality of life - World Health Organization Quality of Life Questionnaire (WHOQOL-BREF)
Results	No statistical comparison data reported.	No significant difference in outcomes.	* Significant change for both groups from 6 months to 1 year (n=139) in social domains of the LIFE-H (95% confidence interval, 0.1–0.7; effect size, 0.3).	No significant difference in outcomes.	No significant difference in outcomes.	* Significant short-term increase in health-related self-efficacy both within-group and between-groups ($p < 0.05$) in managing chronic conditions which were retained at follow-up.	No significant differences between groups in demographics or baseline data with the exception of how participants felt they are able to manage their health in general ($p=0.05$).