

The effect of self-management interventions on improving the capability of daily living activities (ADL) in stroke patients: *a systematic review*



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ABSTRACT

Introduction: Physical problems encountered in stroke patients such as a physical disorder, facial paralysis, and speech disorders. The weakness of the patient's limbs causes the patient to become helpless and unable to regulate himself. The problem requires self-management as a form of adaptation to new conditions. A self-management program is very necessary to increase motivation and enthusiasm to face the condition of his physical weakness after a stroke, to increase the spirit of physical activity. Self-management is a provision for stroke patients and their families to prepare themselves in managing themselves and managing post-stroke diseases. Thus this article is aimed to report the effect of self-management interventions on improving the capability of daily living activities (ADL) in stroke patients from several research.

Methods: Researchers search for data sources using two databases, namely ProQuest and Ebsco. The keywords used are "Stroke", "Self-Management", "Activities of Daily Living". The article was included in this article if it related to rehabilitation of stroke patients at home with self-management interventions with outcomes seen in activity daily living including the ability to ambulate, eat, dress, bathe and dress, using an observational design (Cross-sectional, Cohort, Case-Control), quasi-experimental, pre-experimental and RCT, and from 2015 to 2020, and using English. The article selection process was by the guidelines of the PRISMA to measure the quality of systematic reviews.

Results: From the database search, 6,749 articles were identified, then 5 articles that met the review requirements were identified. From the results of the review, it was found that self-management intervention by empowering patients through knowledge and skills of self-management, problem-solving, the importance of physical activity can help patients to increase their activity of daily living (ADL).

Conclusion: Of the 5 articles reviewed, one article reported an increase in ADL ability in walking activities. Then 4 other articles, reported an increase in ADL ability with assessment instruments using the Barthel index, Functional independent measure (FIM), Stroke impact scale (SIS). The time needed to carry out self-management interventions is 3 weeks to 6 months

Keywords: Strokes, activity of daily living, self-management.

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INTRODUCTION

Stroke is one of the non-communicable diseases which is a serious health problem in the world. This is due to a sudden attack that can cause physical, mental, and even death.¹ Stroke has a rapid development of clinical signs and symptoms of focal or global neurological disorders that last more than 24 hours. Stroke can cause death without finding other causes, other than vascular causes.²

The high number of deaths caused by coronary heart disease and stroke are expected to continue to increase to reach 23.3 million deaths by 2030.³

About 45% of stroke patients experience disabilities such as physical disorders, facial paralysis, and speech disorders. This sudden incident causes the patient's life to change significantly. This results in a loss of confidence in their ability to carry out daily activities, fear of communicating with others, feelings of guilt for being a burden to family members, and lacking a social identity of self-worth. Due to the limited condition, it is difficult for patients who have a stroke to carry out daily activities, so they need self-management to encourage and motivate patients to keep trying to carry out their

activities by practicing.⁴ Based on the 2018 RISKESDAS report, the prevalence of stroke in the population aged more than or equal to 15 years in Indonesia in 2013 was 7 per 1000 population and in 2018 it increased to 10.9 per 1000 population. It can be concluded that there is a significant increase in the number of stroke sufferers from 2013 to 2018 which is 3.9 per 1000 population.⁵

The needs of patients who have had a stroke are physical needs and non-physical needs that are very important to full fill. The need for physical aspects, such as self-care and movement needs. Meanwhile,

emotionally, stroke patients need support from those closest to them who can take care of them. In addition to the physical and emotional aspects, support from health workers in conducting home visits and the motivation given to patients are also considered important needs. The needs of patients that suffered from the stroke must be fulfilled because it is related to the prevention of recurrent stroke, maximizing the function, preventing late complications, and also optimizing quality of life.^{6,7}

Nurses play an important role in the prevention and control of stroke, both from promotive, preventive, curative, and rehabilitative efforts. For rehabilitative efforts in stroke clients, especially in post-stroke clients. This is to prevent recurrent strokes, which can worsen the client's condition after stroke and minimize disability. Post-stroke clients usually require rehabilitation such as physical therapy, speech therapy, occupational therapy.⁷ Rehabilitation is a post-stroke stage that must be passed. Rehabilitation or recovery should be done immediately after having a stroke. The sooner the rehabilitation is carried out, the greater the chance of recovery. Generally, problems experienced by stroke sufferers include motor disorders, sensory disturbances, and cognitive disorders.⁸

Rehabilitation begins when the doctor determines that the patient's condition is medically stable and the patient benefits from the rehabilitation program. Rehabilitation service providers can be found in various places, such as acute care and rehabilitation in hospitals, long-term rehabilitation facilities, rehabilitation services from agencies, or health institutions at home.⁹ In carrying out rehabilitation, patients are more satisfied with carrying out interventions at home compared to hospitals. This is because the patient feels more comfortable doing the exercises at home.¹⁰ Based on the results of the literature that has been carried out by Chayati, et al found that of the twenty-seven articles analyzed, it was found that: Home-based rehabilitation has advantages for stroke patients such as improving upper motor function and walking ability. In addition to having the advantage of

improving motor function, home-based interventions are also very effective in reducing anxiety and depression.¹¹

Stroke has a complex impact including bio-psychosocial and spiritual. The complexity of the problems encountered in stroke patients requires self-management as a form of adaptation to new conditions after a stroke. Self-management health empowerment interventions are useful for improving self-management skills and behavior in stroke patients.¹²

Self-management is defined as an individual's ability to manage symptoms, treatment, physical and psychological changes, and lifestyle changes that are persistent with chronic conditions.¹³ Self-management interventions include specific education about stroke and its effects but focus on skills training to increase motivation to be active in their management. These skills include the ability to solve problems, set goals, make decisions and solve problems.¹⁴

Self-management is able to provide an increase in the quality of life, by increasing the ability to carry out daily activities (ADL), so that the rate of rehospitalization in stroke patients decreases and they can integrate into life before illness.¹⁵ Activity of daily living (ADL) is a form of measuring a person's ability to carry out daily activities independently which includes bathing, eating, dressing, personal hygiene, moving from one place to another, walking on flat surfaces, up and downstairs, control bowel movements and control urination.¹⁶ The self-management program is very necessary because it is a provision for stroke patients and their families as informal caregivers to prepare for self-management and disease management. Self-management interventions are focused on empowering patients. Empowerment is the process of facilitating patients in decisions about health and care that is manifested in participation and self-management behavior. Empowerment encourages stroke patients to maximize their potential to manage their health and daily life independently. Increased participation in self-management through empowerment will help patients learn to take care of themselves.¹⁷ The purpose of this review is to determine the effect of self-management on increasing the ability

of Activity Daily Living (ADL) in stroke patients.

METHODS

This research method uses a systematic review design. In principle, this systematic review is a research method carried out by summarizing the results of primary research articles as a goal to present more comprehensive and balanced data

Literature Search

Researchers search for data sources using two databases, namely ProQuest and Ebsco. The keywords used are "Stroke", "Self-Management", "*Activities of Daily Living*" Researchers gave limitations to the search for articles related to home-based rehabilitation in stroke patients on the ability of Activity of Daily Living of stroke patients with inclusion criteria, namely: articles must be related to rehabilitation of stroke patients at home with self-management interventions with outcomes seen in *activity daily living* including the ability to ambulate, eat, dress, bathe and dress (if there is one of the ADL outcomes, then the article is included in the inclusion criteria). Articles must use an observational design (Cross-sectional, Cohort, Case-Control), quasi-experimental, pre-experimental, and RCT. Articles published in the last 5 years, namely from 2015 to 2020. The article is not a research protocol. The article uses full-text English.

Data collection

The article selection process was following the guidelines of the Preferred Reporting Systematic Reviews and Meta-analysis (PRISMA) to measure the quality of systematic reviews. An initial search of the two databases found 6,749 articles between the years 2015-2020. Then the articles were issued based on the title as many as 6,646. the next stage is screening based on abstracts and issued several 83 articles. The next stage is a full-text review based on inclusion criteria that have been set by the researcher, namely 20 articles. Then it was released again after a full-text selection of 15 articles. 5 articles that meet the requirements are then reviewed for quality and synthesized in the final report of this literature review (**Figure 1**).

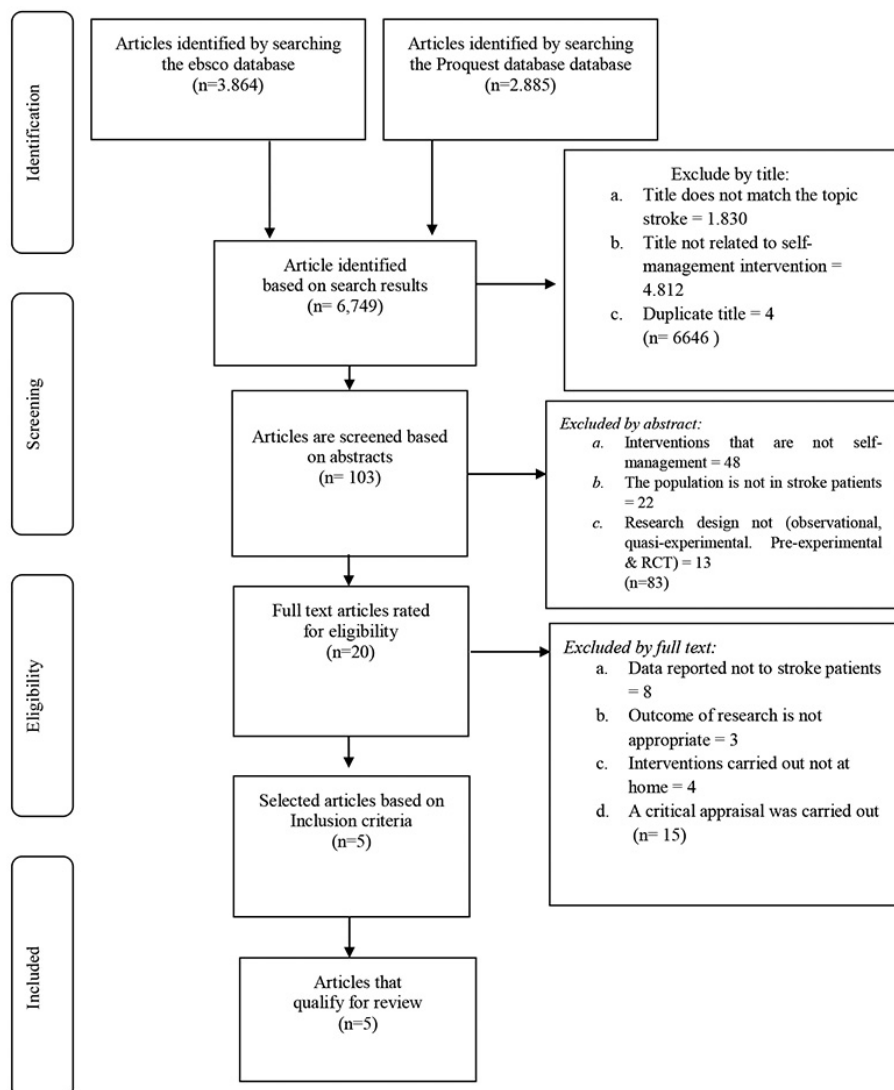


Figure 1. The process of searching and reviewing articles

Self-management interventions in stroke patients have a significant effect on increasing the activity of daily living of stroke patients. Self-management programs can increase physical activity and self-efficacy in patients with mild post-stroke disabilities, this can continue to the ability to walk, participate, and quality of life of patients better. The patient considers that by doing self-management, the patient can manage himself well and it is very useful to increase his physical activity. Self-management will provide strategies for patients and families in managing daily care so that patient activities become more regular and daily abilities will be monitored every day.^{12,18} There was an increase in walking ability

from 43m to 61m at a speed of 0.11m/s after intervention for 6 months. 4 weeks.¹⁹ An increase in the score using the Functional Independence Measure (FIM) and an increase in the Stroke impact scale (SIS) score after the intervention for 3 weeks.^{17,20} The increase in Activity of daily living (ADL) in stroke patients occurs due to increased knowledge and skills of self-management, problem-solving, physical activity education, which is useful for improving self-management skills and behavior in stroke patients. By achieving this goal, self-management interventions can increase the activity of daily living (ADL). Specific information in each article could be seen in [Table 1](#).

DISCUSSION

The results of a systematic review show that self-management interventions can help patients improve daily activities and adapt to post-stroke physical conditions. Post-stroke functional damage causes a person to suffer from a disability, which causes stroke sufferers to become unproductive. A person suffering from a stroke will be increasingly dependent on others in carrying out their activities of daily living (ADL), so they need therapy. Giving therapy only improves motor nerves so that the patient does not depend on others or reduces the patient's dependence on others in doing ADL.²¹

Post-stroke patients may experience various disorders, depending on the part of the brain affected. Patients with post-stroke will experience paralysis of half of the body, difficulty speaking with other people (aphasia), muzzle mouth (facial drop), weak arms and legs, impaired body coordination, mental changes, emotional disorders, communication disorders, and loss of sense of taste. As a result the emergence of various problems caused by stroke will have a very negative impact on the patient's quality of life because it can interfere with activities of daily life.²²

The self-management program is very necessary for stroke patients because it is a provision for stroke patients and their families as informal caregivers to prepare for self-management and disease management. Self-management interventions are focused on empowering patients. Empowerment is the process of facilitating patients in decisions about health and care that is manifested in participation and self-management behavior.²³

Self-management is defined as the active participation of patients in medical treatment, and was introduced, and entered into the guidelines for the care of stroke patients in the UK around 2009.²⁴ Self-management is introduced to stroke patients starting from the acute phase, preparing for discharge and when the patient has been discharged from the hospital and is back in the community. Self-management needs to be given to patients from the acute phase to rehabilitation. In

providing self-management interventions, nurses must pay attention to the patient's knowledge about stroke, the patient's emotions, the patient's activeness in making decisions, the patient's ability to cooperate with health workers, the patient's ability to manage signs and symptoms of the disease, and the patient's ability to carry out daily activities. The integration of stroke services needs to be developed to achieve an optimal quality of life.²⁵ Self-management interventions include specific education about stroke and its effects but focus on skills training to increase motivation to be active in their management. These skills include the ability to solve problems, set goals, make decisions and solve problems. To achieve successful self-management, a strategy is needed, including interventions to empower patients in treatment or rehabilitation programs.¹⁴ The self-management program can increase physical activity and self-efficacy in patients with mild post-stroke disabilities, this can lead to the ability to walk, participate and a better quality of life for patients. The patient considers that by doing self-management, the patient can manage himself well and it is very useful to increase his physical activity. Self-management will provide strategies for patients and families in managing daily care so that patient activities become more regular and daily abilities will be monitored every day.¹⁵

During the rehabilitation period, stroke patients need assistance and motivation to be able to carry out their activities. During the recovery period, positive support provided by health workers to encourage patients to manage themselves can increase patient self-efficacy and can produce better long-term value in maintaining stroke patients' beliefs about their ability to manage themselves.¹² In rehabilitating stroke patients, emotional support and long-term management are needed. In carrying out long-term management, it requires guidance from health workers and the need for a safe and supportive environment for various emotional problems and difficulties experienced so that patients can self-manage Activity daily living (ADL) and can participate in society.¹⁷ Basic activity of daily living

(ADL) can be influenced by joint Range Of Motion (ROM) exercises, muscle strength, muscle tone, proprioception, visual perception, cognitive, coordination, and balance.²⁶

The success rate of self-management intervention is influenced by several factors, namely: lifestyle before stroke patients and self-management skills, post-stroke recovery phase, cognitive abilities of stroke patients, and caregiver support of stroke patients. In addition, the perceptions and beliefs of the providers of self-management programs are important factors for success when administering self-management. So the self-management program must focus on both the client and the caregiver or the provider of the self-management program.²⁷

Factors that support the success of self-management interventions include support from management for the implementation of self-management programs including training for facilitator nurses or professional health workers, supporting facilities and infrastructure, budget for post-discharge follow-up, self-care workbooks, stroke management, preparation of educational materials, and self-management intervention SOPs. The factors that may hinder the success of stroke patients' self-management interventions include the readiness of stroke patients to empower themselves because they focus of self-management interventions is empowerment. In addition, family support is needed because family involvement has a big role in the success of self-management.²⁸ According to our finding, the limitations of this article were article access, limited articles related to the topic, and several articles did not include the accumulation of each item of the Barthel index.

CONCLUSION

The results of a review of 5 articles prove that self-management interventions can increase Activity daily living (ADL) in stroke patients. Of the 5 articles reviewed, one article reported an increase in ADL ability in walking activities. Then 4 other articles, reported an increase in ADL ability with assessment instruments using the Barthel index, Functional independent measure (FIM), Stroke impact scale

(SIS). The time needed to carry out self-management interventions is 3 weeks to 6 months. The increase in Activity daily living (ADL) in stroke patients occurs due to increased knowledge and skills of self-management, problem-solving, physical activity education, which is useful for improving self-management skills and behavior in stroke patients. By achieving this goal.

DISCLOSURE

Conflict of Interest

There is no conflict of interest between the authors

Ethics Approval

not applicable

Author Contribution

In this article AM was searching the articles, doing the critical appraisal, and making a drafting reports, meanwhile NC has been re-checking the writings that have been made, conducting analysis studies, and compiling publications.

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Table 1. The results of the articles reviewed

No	Researcher name & year	Research purposes	Research design	Intervention giver	Characteristics of respondents	Action Time	ADL measuring instruments	Outcomes/ Results.	limitation
1	Chen et al. 2018	To determine the effectiveness of the patient-centered self-management empowerment intervention (PCSMEI) on self-efficacy, activities of daily living (ADL), and re-hospitalization of stroke patients for the first time.	arm single-blind randomized controlled prospective trial Sample: 126 (Intervention group n=64, Control group n=62). The control group received conventional nursing, such as health education and post-treatment follow-up. The intervention group received conventional nursing actions and received the PCSMEI patient-centered self-management empowerment intervention which began in the inpatient period and was expanded to an outpatient setting. The program includes: five daily sessions, one small group session, one discharge instruction, and a four-week telephone follow-up	Health professionals, nurses	Inclusion criteria were as follows: (a) first acute stroke diagnosis; (b) 18 years; (c) with a mild to moderate neurological deficit (National Institutes of Health Stroke Scale score of 20; (f) able to communicate; (g) resident of Nanjing; (h) able to be contacted by telephone; and (i) able to sign informed consent. Patient outcomes were pooled four times: at baseline (T0), 1 month after discharge (T2), and 3 months after discharge (T3). Re-hospitalization was collected at 1-month post-discharge and 3 months after discharge	The total duration of action is 3 months Individual session (first week). Five daily sessions were held from Day 3 to Day 7 after the patient's medical condition stabilized. This session aims to transfer knowledge and self-management skills. This session consists of 5 days (20-minute session). The small group session (second week) is a 60-minute session with 8-10 participants per group, in a class format, and is divided into two parts. The first part is a 20 minute DVD on stroke self-management and self-care knowledge and skills. The second section which lasts for 40 minutes is about self-efficacy and self-management development. Return period This period aims to increase the patient's discharge readiness. . . Discussions by nurses, patients, and family caregivers were conducted at the bedside. Critical inputs such as pre-discharge assessment, rehabilitation, and self-management goal setting (both short-term and long-term goals). In this session, a mutually agreed collaborative plan is made for home-based implementation. Post-discharge period The purpose of this session is to assess the patient's self-management skills and behaviors. This session consisted of four weekly telephone follow-ups (each session 20-30 minutes). Assessments in this period are: (a) assessing patient performance, (b) identifying barriers or problems and teaching problem-solving skills, and (c) identifying goal attainment and providing positive reinforcement and empowerment.	Barthel index	There was no significant difference in the change in the Barthel index value between the intervention group and the control group at the time of discharge (T1) with $p = 0.181$ / $= 2.493$; 95% CI $[-1.162, 6.148]$; p and 1 month (T2) after the patient was discharged from the hospital with a value of $p = 0.091$ / $= 3.503$; 95% CI $[-0.563, 7.569]$; However, there was a significant difference in the change in Barthel index between the intervention group and the control group at 3 months (T3) after the patient was discharged from the hospital with $p = 0.04$ / $= 5.175$; 95% CI $[0.131, 10.219]$; This indicates that patients in the intervention group experienced a significant improvement in ADL compared to patients in the control group at 3 months of the post-intervention sample.	There was no significant difference in the change in the Barthel index value between the intervention group and the control group at the time of discharge (T1) with $p = 0.181$ / $= 2.493$; 95% CI $[-1.162, 6.148]$; p and 1 month (T2) after the patient was discharged from the hospital with a value of $p = 0.091$ / $= 3.503$; 95% CI $[-0.563, 7.569]$; However, there was a significant difference in the change in Barthel index between the intervention group and the control group at 3 months (T3) after the patient was discharged from the hospital with $p = 0.04$ / $= 5.175$; 95% CI $[0.131, 10.219]$; This indicates that patients in the intervention group experienced a significant improvement in ADL compared to patients in the control group at 3 months of the post-intervention sample.

No	Researcher name & year	Research purposes	Research design	Intervention giver	Characteristics of respondents	Action Time	ADL measuring instruments	Outcomes/ Results.	limitation
2	Sit et al. 2016	To examine the effect of empowerment intervention on stroke patient self-efficacy, self-management behavior, and functional recovery.	A randomized controlled trial. Samples: A total of 210 (control group = 105, intervention group = 105). The control group received the usual outpatient rehabilitation treatment while the intervention group received outpatient rehabilitation along with (Health Empowerment Intervention for Stroke Self-management [HEISS]). The intervention aims to empower stroke survivors with "how-to" knowledge and skills to improve self-management about the post-stroke rehabilitation journey.	Professional Health Workers, physiotherapy, occupational therapy, and nurses.	Patients who had a first hemorrhagic or ischemic stroke, who were scheduled for outpatient stroke rehabilitation, and had post-stroke functional difficulties had limited self-care. Then patients were excluded if the patient was diagnosed with depression, or on antidepressant treatment.	The duration of the intervention was 13 weeks consisting of 2 parts. Part 1 has 6-week small group sessions from week 3 to week 8. Groups of four to six participants are allowed to form a partnership with a nurse facilitator for stroke self-management. Mutually agreed goal setting and action plans were made at 6 weekly group sessions, and participants have given a personal stroke self-management workbook to guide their implementation at home.	China Lawton's Barthel index and instrumental ADL (IADL)	There was a significant difference in the change in the Barthel index value between the intervention group and the control group with $P = 0.005$, $P = 0.016$, and $P = 0.03$ at 1-week posttest (T1), after (HEISS), 3 months posttest (T2), and 6 months posttest (T3) when compared to the control group. Then when measuring using Lawton, respondents in the intervention group had a much better improvement in all three post-intervention time points (all $P = 0.001$) at 1-week posttest (T1), 3 months posttest (T2), and 6 months posttest (T3) compared to the control group. Changes in the value of the Barthel index at T0 in the control group 75.8 and the intervention 72.6 then T1 in the control group 85.5 and the intervention 86.6, T2 in the control group 83.2 and the intervention 88.3. T3 in the control group was 82.2 and the intervention group was 86.3	The accumulation of each item of the Barthel index instrument but the increase in each component of the Barthel index item and Chinese Lawton instrumental ADL (IADL) not listed.

No	Researcher name & year	Research purposes	Research design	Intervention giver	Characteristics of respondents	Action Time	ADL measuring instruments	Outcomes/ Results.	limitation
3	Preston et al. 2017	To investigate the feasibility of a self-management program, and determine whether self-management can increase physical activity levels and self-efficacy for exercise, decrease cardiovascular risk, and improve walking ability, participation, and quality of life in people with mild disabilities after stroke.	feasibility study sample: 20 participants. respondents get self-management intervention	Physiotherapy professionals	Inclusion criteria were: straight home from the acute stroke unit, able to walk 10 m across the flat ground without assistive devices at a speed of 0.8 m/s, and a score of 24 on the Mini-Mental State Exam. were excluded if the patient had moderate to severe aphasia. Eligible patients were enrolled if they lived within 30 km of the hospital, they agreed to participate and medical clearance was granted by a neurologist	The duration of the intervention is 3 months which is delivered in 5 sessions and each session is carried out for 60 minutes at the participant's home. The first two sessions were delivered at 1-week intervals, the third session after a 2-week interval, and the fourth and fifth sessions after a 4-week interval. Session 1 covered education about the importance of physical activity, filling out a physical activity questionnaire and listing goals, barriers, and potential solutions. Session 2 included revision of goals, barriers, and solutions, development of a weekly physical activity schedule, selection of self-monitoring strategies, and implementation of initial physical activity sessions. Physical activity may include physical activity accomplished during leisure time (e.g. walking, swimming), transportation (e.g. walking or cycling), work (e.g. lifting, climbing stairs), household chores (e.g. gardening, vacuuming), playing (e.g. with grandchildren), exercise (e.g. grass bowls), or planned sports (e.g. tai chi classes). Session 3 included feedback on the initial amount of physical activity from 7 days of physical activity monitoring, revision of self-monitoring goals and schedule, encouragement, and praise. Session 4 included revision of goals and self-monitoring strategies, development of strategies to prevent relapse, encouragement, and praise. Session 5 included feedback on the amount of physical activity at 3 months (from post-intervention measures of physical activity), revision of the physical activity schedule, development of strategies to prevent relapse, encouragement, and praise. The structure of the self-management program is standardized (e.g. time and scope of each session), but specific content is individualized to account for differences in objectives, barriers	Walking ability was measured as distance walked in 6 minutes and reported in the 6-minute Walk Test according to American Thoracic Society guidelines, and speed was reported in m/s, and stride length was reported in cm using the 10 m Walk Test at a self-selected pace. At 6 months, the walking distance was 61 m (95% CI 27–96) greater than at the start of the intervention, the walking speed 0.15 m/s (95% CI 0.06–0.24). Clinical results show that self-management programs have the potential to improve physical activity and self-efficacy in people with mild post-stroke disability, and this may lead to better walking ability, participation, and quality of life.	At 3 months post-intervention for the amount of physical activity, brisk walking or stride length. Respondents completed physical activity for 27 minutes/day (95% CI 4–49) more physical activity than at the beginning of the intervention. Then the respondent has increased walking distance by 43 m (95% CI 10–76), self-chosen walking speed by 0.11 m/s (95% CI 0.02–0.20).	The number of samples is relatively small

No	Researcher name & year	Research purposes	Research design	Intervention giver	Characteristics of respondents	Action Time	ADL measuring instruments	Outcomes/ Results.	limitation
4	Lee et al. 2017	To evaluate the feasibility and effectiveness of Improving Participation After Stroke Self-management program – Rehab version (IPASS-R) in rehabilitation settings	quasi-experimental pilot study Samples: 17 Control group = 8. Intervention group = 9. Respondents in the intervention group received the Improving Participation After Stroke Self-management program – Rehab version (IPASS-R) intervention. to maintain active participation in post-stroke home and community activities. Increase activity or environmental changes and increase participation in the community and improve body functions.	Health professionals, occupational therapists	The inclusion criteria were as follows: (1) people with mild stroke who were able to participate in group and community activities when physical assistance was provided (e.g. writing, mobility, toileting), (2) at least 45 years of age, and (3) no plans to leave rehabilitation days in less than 3 weeks. Exclusion criteria included severe aphasia or cognitive impairment	The total time required for the Intervention After Stroke Self-management program (IPASS-R) is 3 weeks consisting of six sessions, and each session takes 90 minutes.	Stroke impact scale (SIS)	The intervention group showed a greater effect on stroke impact scale (SIS) outcomes with a change in the Median value from 29.5 before the intervention to 31.0 after the intervention participation in each After Stroke Self-management program – Rehab version (IPASS-R)	The number of samples is relatively small. The accumulation of each item of the instrument stroke impact scale (SIS) but the increase in each component Stroke impact scale (SIS) not listed, so the results are less profound for physical mobility

No	Researcher name & year	Research purposes	Research design	Intervention giver	Characteristics of respondents	Action Time	ADL measuring instruments	Outcomes/ Results.	limitation
5	Harel-Katz et al. 2020	To evaluate the feasibility and effectiveness of Improving Participation After Stroke Self-Management (IPASS) adapted for a population of Israeli individuals treated in rehabilitation centers after stroke.	randomized pilot study 39 participants completed the assessment at the end of the intervention, of whom 20 were in the intervention group and 19 in the control group. 20 people in the intervention group were divided into five small groups who received the Improving Participation After Stroke Self-Management (IPASS) intervention.	Professional health workers, occupational traps	Inclusion criteria: (1) mild cerebrovascular accident diagnosed up to 1.5 years before admission to the rehabilitation center; (2) at least 18 years old; (3) stay at home; and (4) able to communicate basically in Hebrew, which is the official language in Israel. Exclusion criteria were: (1) moderate-severe stroke according to the National Institutes of Health Stroke Scale (NIHSS) (total score 16) or (2) Moderate-severe cognitive impairment according to the Montreal Cognitive Assessment (MOCA) (total score 16)	The intervention consisted of 12 weekly group sessions, each lasting 2.5 hours. The first five sessions are based on the content of the Chronic Disease Self-Management Program (CDSMP). This followed by seven specific sessions that focus on the application of social media skills put into practice, along with the process of analyzing difficulties in performing daily activities and finding strategies, to increase participation at home, community, work, and social activities.	Functional Independence Measure (FIM)	Analysis of means revealed that the intervention group's Motor Functional (FIM) significantly improved motor FIM ($p < 01$), compared with a slightly significant increase in the control group ($p = 051$). There was an increase in the FIM value in the intervention group before the intervention with a value of 79.60 to 83.90 after the intervention.	Not explained in detail about the physical improvement points on the FIM section and the relatively short intervention time