Factors Affecting Changes in Social Activities of People with Stroke Living in The Community: Follow-Up 1 to 3 Years after Being Discharged Home

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Abstract: Purpose: This follow-up study by questionnaire aimed to identify factors associated with social activity levels of stroke patients by investigating their activities between 1 and 3 years after discharge.

Materials and Methods: Participants included 191 people with stroke who were living in their home. Their social activity levels at 1 and 3 years post-discharge were investigated using the Frenchay Activities Index (FAI: an index for evaluating social activities such as housework, leisure, and work). Factors associated with inactivity at 3 years post-discharge, and with a decline in activity levels from 1 to 3 years post-discharge were analyzed by logistic regression analysis.

Results: The median FAI was 23 points after 1 year; however, it declined significantly to 19 points after 3 years. Cognitive dysfunction [odds ratio (OR) = 11.61, p < .001] and dependency in activities of daily living (ADLs) [OR = 8.46, p < .001] were identified as factors associated with inactivity after 3 years. Moreover, dependence in ADLs (OR = 0.10, p = .027) was identified as a factor associated with a decline in activity level from 1 to 3 years post-discharge.

Conclusions: Patients with stroke living at home tend to be inactive in the long term; this could be attributed to cognitive dysfunction and ADL dependency. Therefore, occupational therapists need to pay more attention to the social activities of patients with stroke in the community; providing activities tailored to the patient’s abilities is vital. Furthermore, interventions are needed to prevent long-term decline in social activities in patients with stroke living at home, who show independence in ADL.

Keywords: stroke, social activity, predictors, long-term outcome, rehabilitation

Introduction

The incidence of stroke increases with age; while mortality rates have been declining owing to advances in acute treatment, long-term care is required at home owing to persistent paresis and cognitive dysfunction [1]. The number of patients requiring long-term care at home is also rising in proportion to the population age [2]. Therefore, it is essential to identify methods to improve the lives of people with stroke living at home.

The aging population in developed countries and Japan in particular, has been increasing in recent years. The Ministry of Health, Labor, and Welfare introduced a community-based integrated care system to support the rapidly increasing number of elderly people in provincial regions [3, 4]. The goal of the system is to develop a local framework to provide comprehensive support services enabling elderly people in the community to continue living accustomed lifestyles as far as practicable until the end of life [4]. Moreover, for rehabilitation of elderly people in the community, the system aims to promote “activities” and “participation,” as defined by the International Classification of Functioning, Disability, and Health [5]. Support and rehabilitation frameworks must similarly be developed for people with stroke; however, the current status of social activities directly associated with accustomed lifestyles, activities,
and participation, such as housework, leisure, and work remains unclear in people with stroke living in provincial regions of Japan; relevant studies with long-term follow-up are scarce.

Several longitudinal studies of social activities have been conducted in Europe and North America [6–11]. Most evaluated patients from 1 to 3 years after stroke onset; others have identified various factors associated with social activities, including stroke severity, complications, cognitive dysfunction, and activities of daily living (ADLs). On univariate analysis, leg function 1 year after stroke onset was associated with a decline in social activities [9]. However, as social activities are strongly influenced by cultures, results from studies conducted in Europe and North America may not be generalized to Japan, and similar studies should therefore be conducted in this setting.

It is essential to investigate the social activities of patients with stroke, who account for most individuals requiring long-term care in Japan; the Japanese population is aging at unprecedented rates compared to others. This will facilitate rehabilitation with a focus on future support frameworks and on the promotion of activities and participation, especially for those living in local communities. Therefore, we investigated the social activities of people with stroke living at home at 1 and 3 years after hospital discharge, and performed a multivariate analysis to identify related factors and changes in social activity levels at these time points.

Materials and Methods

Participants

This follow-up study included 191 stroke people living at home. They were selected from 338 consecutive stroke patients discharged home between October 2012 and October 2014; all responded to a questionnaire after 1 year. Our hospital is a general hospital in a provincial city, and treats several patients with stroke who are brought in by ambulances and subsequently admitted to a ward in the Department of Neurology or Neurosurgery, where they undergo acute-stage therapy with comprehensive rehabilitation based on full-risk management. Patients without serious complications receive physical and occupational therapies. Physical therapy includes physical exercise and training in basic activities. Occupational therapy involves training for ADL and cognitive function. Patients with aphasia and/or dysphagia receive speech therapy. Approximately 50% of patients are discharged home from the acute ward, and 20% of patients with moderate-to-severe motor-induced paralysis and cognitive impairment are transferred to a rehabilitation ward in the same hospital for long-term rehabilitation. Approximately 80% of patients in the rehabilitation ward are discharged home, and the remaining are transferred to another hospital or a nursing home.

Patients with ischemic or hemorrhagic strokes diagnosed by clinical and radiographic findings were included, while those with serious impairments of consciousness, unstable medical complications, or other diseases that could impede active rehabilitation were excluded from the study.

Assessment

Subjects were followed-up at 1 and 3 years after hospital discharge. Questionnaires were mailed for the subjects to fill out, and were returned by either the patients or their representatives, if they were unable to reply themselves. We sent a postcard three weeks after the questionnaire was sent, that served as both, a thank-you letter and a reminder. Follow-up surveys were conducted, which included assessment of social activities using the Frenchay Activities Index (FAI). Fifteen different items related to social activities were evaluated; each item was scored from 0 to 3 (total score, 0–45 points) [12, 13]. The items were categorized as follows: domestic (preparing meals, washing up, washing clothes, and light or heavy housework), outdoor (local shopping, walking outdoors, driving/train travel, gardening, and house/car maintenance), and leisure/work (social outings, pursuing hobbies, outings/car rides, reading books, and gainful work). Activity levels were classified according to the score as follows: inactive (0–15), moderately active (16–30), and highly active (31–45). A subscale score of 0–5 was defined as inactive, 6–10 as moderately active, and 11–15 as highly active; scores for individual items were classified as inactive (0–1), moderately active (2), and highly active (3). Basic ADLs were assessed using the Barthel Index (BI) [14]. The BI assesses 10 items related to basic ADLs, with a score ranging from 0 to 100 points; subjects with 100 points are classified as being more independent, and those with scores ≤ 95 points are classified as having dependence in ADLs. We used self-reported BIs [15, 16]. Mental function was assessed using the Hospital Anxiety and Depression Scale (HADS). The HADS is a self-administered questionnaire with subscales measuring anxiety (HADS-A) and depression (HADS-D). Each subscale includes seven questions; each is scored from 0 to 3 (total score, 0–21 points). Subjects with high scores generally exhibit more severe symptoms of anxiety or depression [17]. A score of ≥ 11 points on either scale was considered to indicate the presence of symptoms. We also investigated the cohabitation (living alone or with family) and social service usage (long-term care
insurance) status.

Subject Characteristics

Patient characteristics at hospital discharge were obtained from the medical records of our hospital. We investigated the following parameters: age, sex, stroke type (lacunar, others, or ischemic of non-lacunar and hemorrhagic type), stroke event (first or recurrent), medical complications (hypertension, ischemic heart disease, diabetes mellitus, or atrial fibrillation), Stroke Impairment Assessment Set (SIAS), and Functional Independence Measure (FIM). The SIAS evaluates stroke severity, with a score ranging from 0 to 75. A lower score indicates less severe stroke [18]. Paresis was assessed using the paresis-related items of the SIAS. The maximum scores for the arms and legs were 10 and 15 points, respectively, with a score of ≤ 9 for the arms and ≤ 14 points for the legs indicative of paresis. FIM is one of the most commonly used methods for evaluating function in patients with stroke, and enables functional assessment using the twin perspectives of motor and cognitive functions. The motor FIM score ranges from 0 to 91 points, while the cognitive FIM score ranges from 0 to 35; higher scores indicate better function [19, 20]. The Mini-Mental State Examination (MMSE) is the most widely used assessment tool for cognitive function; however, it is difficult to use with aphasic patients. Therefore, we used the cognitive FIM to assess cognitive function, with a score of ≤ 29 points indicating cognitive dysfunction. The MMSE and cognitive FIM scores were correlated [21].

Statistical Analyses

Kruskal-Wallis and χ² tests were used to compare subject characteristics at hospital discharge and at 1 and 3 years post-discharge. These tests were also used to compare the follow-up data of the subjects at home who responded 1 year after discharge, those at home who responded 1 and 3 years after discharge, and those at home who responded 3 years after discharge. Post-hoc analyses were performed using the Dunn’s method; the Bonferroni correction was used for multiple comparisons. Proportions of subjects who were inactive according to the FAI at 1 and 3 years post-discharge, were compared using the χ² test; the median FAI at 1 and 3 years post-discharge was compared using the Wilcoxon signed-rank test.

To identify factors associated with inactivity according to the FAI at 3 years post-discharge, binomial logistic regression analysis of the FAI was performed at 3 years post-discharge. Binomial logistic regression analysis was conducted to identify factors associated with a decline in the activity level from 1 year to 3 years post-discharge. A decline in the activity level was defined as a decrease from moderate to low or from high to moderate/low levels. Explanatory variables used during analysis included sex, stroke type, stroke event, cognitive impairment (cognitive FIM at discharge), paresis (the paresis-related items of the SIAS at discharge), age at 1 year post-discharge, family dynamics (living alone/other), ADLs (independent/requiring assistance), and depression (yes [HADS-D score of ≥ 11]/no).

For all analyses, statistical significance was set at < 5%. Statistical analyses were conducted using the IBM SPSS Statistics version 25 (IBM Corp., Armonk NY) software package.

Ethics

The appropriate ethics review boards approved this study on October 2, 2012 (approval No. 2122). Written informed consent was obtained from all subjects or their relatives if the patient was unable to provide consent.

Results

Among 191 subjects discharged home, 166 were living at home, 5 had been admitted to the hospital, 6 had entered nursing homes, and 14 died at 1-year post-discharge. Overall, 121 subjects responded to the survey at 3 years post-discharge, of whom 101 were living at home, 1 had been admitted to hospital, 9 had entered nursing homes, and 10 had died (Fig. 1). A comparison of patient characteristics at discharge
with those of respondents living at home at 1 and 3 years post-discharge revealed significant differences in FIM (total, motor, and cognitive) scores and cognitive dysfunction; post-hoc analysis revealed significant differences between subjects at discharge and those who responded at 3 years post-discharge (Table 1). A comparison of follow-up assessments of respondents living at home 1 and 3 years post-discharge showed a significant difference in the incidence of symptoms of depression. Post-hoc analysis also revealed a significant difference between respondents living at home at 1-year post-discharge and those living at home 3 years post-discharge (Table 2).

Figure 2 shows the proportions of patients living at home at 1 and 3 years post-discharge, who were inactive according to the FAI. Activities in which a low proportion of patients were classified as inactive were outings/car rides (1 year and 3 years, 34.0% and 38.8%, respectively), walking outdoors (41.2% and 43.9%), and local shopping (47.4% and 49.0%). Conversely, activities in which a high proportion of patients were classified as inactive included driving/train travel (80.4% and 84.7%) and gainful work (84.5% and 85.7%). A comparison of the proportions of patients who were classified as inactive in each activity at 1 and 3 years post-discharge did not yield any significant differences. However, a comparison of the median values at 1 and 3 years post-discharge revealed significant decreases in total score after 3 years (23 vs. 19, \( p = .005 \)), leisure/work (5 vs. 4, \( p = .006 \)), and reading books (2 vs. 1, \( p = .024 \)).

Table 3 shows the results of the binomial logistic analysis of factors associated with inactivity according to the FAI 3 years post-discharge using patient char-

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**Table 1** Comparison of Characteristics at Discharge between the groups during and at 1 and 3 Years After Discharge.

| Characteristics | At discharge (n = 191) | 1 year (n = 166) | 3 years (n = 101) | \( p \) |
|-----------------|-----------------------|------------------|------------------|-------|
| Age             | 76 (69–84)            | 74 (68.25–82)    | 73 (69–81)       | .223  |
| Sex Female      | 75 (39.3)             | 65 (39.2)        | 37 (36.6)        | .895  |
| Stroke type     | 66 (34.6)             | 58 (34.9)        | 32 (31.7)        | .801  |
| Stroke event    | 139 (72.8)            | 122 (75.8)       | 83 (82.2)        | .202  |
| Medical complication | Hypertension | 94 (49.2)     | 80 (48.2)        | 52 (51.5) | .872 |
| Stroke type     | 14 (7.3)              | 9 (5.4)          | 2 (2.0)          | .160  |
| Stroke event    | 25 (13.1)             | 21 (12.7)        | 12 (11.9)        | .957  |
| Motor paresis   | 15 (7.9)              | 12 (7.2)         | 9 (8.9)          | .858  |
| SIAS            | 72 (62–75)            | 73 (65.25–75)    | 73 (70–75)       | .073  |
| Motor paresis   | 74 (38.7)             | 57 (34.3)        | 26 (25.7)        | .081  |
| Motor paresis   | 80 (41.9)             | 64 (38.6)        | 33 (32.7)        | .274  |
| FIM Total       | 105 (79–118)          | 108 (88.75–118)  | 112.5 (101–121)  | .024* |
| Motor           | 25 (13.1)             | 21 (12.7)        | 12 (11.9)        | .957  |
| Cognitive Dysfunction | Cognitive FIM < 30 | 31 (23–35)       | 32 (25–35)       | .016* |
| Cognitive Dysfunction | Cognitive FIM < 30 | 81 (42.6)        | 60 (36.4)        | .032* |

* \( p < 0.05 \). Values are presented as median (Q1–Q3) for continuous data and n (%) for nominal data.

SIAS: Stroke Impairment Assessment Set; FIM: Functional Independence Measure; U/E: upper extremity; L/E: lower extremity.

**Table 2** Comparison of Follow-up Assessment at 1 and 3 Years.

| Cohabitation status | 1 year (n = 166) | 1 year* (n = 101) | 3 years (n = 101) | \( p \) |
|---------------------|-----------------|-------------------|------------------|-------|
| Alone               | 13 (7.8)        | 5 (5.0)           | 8 (7.9)          | .622  |
| Use                 | 72 (43.4)       | 35 (34.7)         | 38 (37.6)        | .336  |
| HADS Anxiety score  | 6 (3–8)         | 5 (2–8)           | 4 (2–7)          | .146  |
| Anxiety symptoms HADS-A ≥ 11 | 25 (15.1) | 8 (7.9)         | 9 (8.9)          | .312  |
| Depression score    | 7 (4–11)        | 6 (3–9)           | 6 (4–9)          | .119  |
| Depression symptoms HADS-D ≥ 11 | 45 (27.1) | 15 (14.9)       | 18 (17.8)        | .042  |
| BIA                 | 90 (65–100)     | 100 (80–100)      | 100 (80–100)     | .113  |
| ADL Dependence BI < 95 | 84 (50.6) | 41 (40.6)        | 40 (39.6)        | .159  |
| FAI Total           | 16 (3–29)       | 23 (5–33)         | 19 (4–31)        | .149  |

* Patients who responded both at 1 year and 3 years post-discharge.

Values are presented as median (Q1–Q3) for continuous data and n (%) for nominal data.

HADS: Hospital Anxiety and Depression Scale; BIA: Barthel Index; FAI: Frenchay Activities Index.

with those of respondents living at home at 1 and 3 years post-discharge revealed significant differences in FIM (total, motor, and cognitive) scores and cognitive dysfunction; post-hoc analysis revealed significant differences between subjects at discharge and those who responded at 3 years post-discharge (Table 1). A comparison of follow-up assessments of respondents living at home 1 and 3 years post-discharge showed a significant difference in the incidence of symptoms of depression. Post-hoc analysis also revealed a significant difference between respondents living at home at 1-year post-discharge and those living at home 3 years post-discharge (Table 2).
characteristics and survey results 1 year post-discharge as explanatory variables. Cognitive dysfunction [odds ratio (OR) = 11.61, 95% confidence interval (CI) 3.13–43.09, \( p < .001 \)] and dependence in ADLs (OR = 8.46, 95% CI 2.86–25.00, \( p < .001 \)) were identified as factors associated with the total score. Male sex (OR = 8.48, 95% CI 2.41–29.41, \( p = .001 \)), cognitive dysfunction (OR = 7.70, 95% CI 1.97–30.09, \( p = .003 \)), and dependence in ADLs (OR = 4.41 95% CI 1.46–13.26, \( p = .008 \)) were identified as factors associated with the domestic

![Fig. 2. Proportions of activity levels for each FAI item 1 and 3 years post-discharge.](image-url)

1*, patients at home who responded at 1 and 3 years after discharge; 3, all patients who responded at 3 years post-discharge.
subscale score; cognitive dysfunction (OR = 14.92, 95% CI 6.16–70.34, \( p < .001 \)) and dependence in ADLs (OR = 7.99, 95% CI 2.57–24.83, \( p < .001 \)) were associated with the outdoor subscale score; dependence in ADLs (OR = 6.35, 95% CI 2.30–17.59, \( p < .001 \)) and depression (OR = 12.27, 95% CI 1.45–103.64, \( p = .021 \)) were associated with the leisure/work subscale score.

Binomial logistic regression analysis of factors associated with a decline in the activity level based on the FAI from 1 to 3 years post-discharge, identified dependence in ADLs as a factor significantly associated with a decline in the total FAI (OR = 0.10, 95% CI 0.01–0.76, \( p = .027 \)), outdoor subscale score (OR = 0.10, 95% CI 0.01–0.83, \( p = .033 \)), and leisure/work subscale score (OR = 0.09, 95% CI 0.01–0.50, \( p = .009 \)). No factors were associated with the domestic subscale score.

**Discussion**

We investigated the social activity level among patients with stroke 1 and 3 years after discharge following rehabilitation. In the assessment of social activities using the FAI, the median scores were 23 and 19 points at 1 and 3 years post-discharge, respectively. The factors associated with social inactivity at 3 years post-discharge were cognitive function decline and ADL dependence. The factor associated with decreased social activities from 1 to 3 years post-discharge was independence in ADLs.

**Social Activity Level**

A number of previous studies have used the FAI to assess social activities after periods of time ranging from 1 to 3 years following discharge, and have found minimal differences in scores between these time points. For instance, Patel et al. [8] reported a mean score of 15.4 points at 1 year and 15.8 points at 3 years, and Jansen et al. [9] found that the mean score did not change at 1 year and was 19.5 points at 3 years post-discharge. Our results were similar or somewhat higher than the previously reported values at 1 and 3 years post-discharge, with a significant decline from 23 points to 19 points. Moreover, our results were substantially lower than the mean score of 26.4 points reported in a study of FAIs among healthy older individuals in Japan [13].

Although the overall activity level was low in our study, the patients were relatively more engaged in outdoor activities, such as outings/car rides, walking outdoors, and local shopping. The patients in our study received instructions on walking exercises by rehabilitation staff at the time of discharge; this had possibly established a habit of going for walks in their local neighborhoods, parks, and other areas with the goal of improving and maintaining motor function. Shopping and outings/car rides to nearby destinations are difficult or even impossible to be performed alone; performed with other family members provided opportunities for the patients to go out. Conversely, our patients’ engagement in driving/train travel or gainful work was extremely limited. Driving among patients with stroke has become a prevalent social issue in Japan, and considering the damages in the event an accident happens, the criteria for resuming driving have become more rigid. Moreover, the very low scores for gainful work could be attributed to the high number of elderly patients; the usual retirement age for Japanese workers ranges from 60 to 65 years and a number of patients had already retired before their stroke occurred. Although driving and gainful work may be difficult activities for older patients with stroke, the possibility of these patients performing indoor activities, such as light housework and pursuing hobbies with family support, must be explored. In addition, social activities are associated with family roles and individuals’ reasons for living and are important for the prevention of mental and physical frailties and improvement in the overall quality of life. Occupational therapists, in particular, should be involved in the seamless transition from providing instructions at the time of discharge to performing intervention activities at home.

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**Table 3  Factors Associated With Inactivity According to FAI at 3 Years.**

| Predictor       | OR    | 95% CI          | \( p \) | \( R^2 \) |
|-----------------|-------|-----------------|--------|---------|
| Total           | Cognitive dysfunction | 11.61 | 3.13–43.09 | < .001 | .513    |
| Domestic        | Dependence in ADL     | 8.46  | 2.86–25.00 | < .001 |         |
| Domestic        | Men                | 8.48  | 2.41–29.41 | .001  | .426    |
| Outdoor         | Cognitive dysfunction | 14.92 | 6.16–70.34 | < .001 | .540    |
| Outdoor         | Dependence in ADL     | 7.99  | 2.57–24.83 | < .001 |         |
| Leisure/work    | Dependence in ADL     | 6.35  | 2.30–17.59 | < .001 | .324    |
| Leisure/work    | Depression           | 12.27 | 1.45–103.64| .021  |         |

FAI: Frenchay Activities Index; ADL: activities of daily living; OR: odds ratio; CI: confidence interval
Factors Associated With Social Activities at 3 Years Post-Discharge

Previous reports have identified several predictors of FAI in the long-term, including stroke severity [6, 22], complications [7, 23], cognitive function [7], depression level [22–24], and ADLs [7]. Our study showed that cognitive dysfunction and dependence in ADLs are associated with inactivity according to the total FAI, and these predictors were consistent with those in previous studies. Similar to our findings, Pettersen et al. demonstrated that cognitive dysfunction and low BI score are associated with inactivity according to the FAI 3 years post-discharge [7]. Social activities are complex processes that may involve the use of tools (e.g., vacuum cleaners, washing machines, and cars), demanding a higher cognitive function level. Therefore, cognitive dysfunction may be a strong predictor of social inactivity. When providing support for social activities to patients with stroke with cognitive dysfunction, family members and occupational therapists must not immediately assume that the patients are incapable of performing social activities; instead, they should first analyze the activities that the patients can perform and subsequently assist them accordingly. Many studies have also suggested that a low BI score is a predictor of inactivity at 1-year post-discharge [25, 26]. Schepers et al. [26] stated that patients who are more independent (in terms of self-care) have a better FAI, which is similar to our results at 3 years post-discharge.

Furthermore, in this study, we categorized the activities based on the following activity contents: domestic, outdoor, and leisure/work, and investigated the factors associated with low activity levels in each category. Although a few studies have also investigated FAI based on separate categories [24, 25, 27], their results are inconsistent, and none have surveyed patients 3 years post-discharge. In our study, we were able to elicit a number of factors associated with the different categories. Sex was only associated with domestic activities, such as cooking, laundry, and cleaning; men tended to be more inactive in these. As domestic activities are usually regarded as women's work, especially in elderly people, the results may have been affected by this social standard [26]. Moreover, depression was only associated with leisure/work activities. A previous study showed that approximately 30% of patients with stroke develop post-stroke depression [28], and patients with stroke living at home may be poorly treated for depression. Although studies have emphasized the importance of screening for depression from the time of discharge and providing appropriate treatment [29], the identification of symptoms of depression in patients with stroke and the appropriate treatment methods warrant further investigation. Other studies have reported that post-stroke depression is improved by encouraging participation in leisure activities through leisure education programs [30]. Creating environments and opportunities for patients with stroke to participate in leisure activities may help improve symptoms of depression.

Factors Associated With a Decline in the Social Activity Level From 1 Year to 3 Years Post-Discharge

Studies investigating factors associated with a decline in the social activity level from 1 to 3 years post-discharge are scarce, and none of the existing studies have used multivariate analysis. One study employed univariate analysis [9] and found that leg function and social inactivity at 1 year are predictors of a decline in social activities from 1 to 3 years post-discharge. On multivariate analysis, we identified independence in ADLs 1 year post-discharge as a predictor of a decline in total FIM scores, and in outdoor and leisure/work subscale scores from 1 to 3 years post-discharge. Most patients whose social activity level had declined 3 years post-discharge showed independence in ADLs 1 year post-discharge. Rehabilitation interventions focus on individuals whose functions are gradually declining; therefore, those who are functioning well tend to be overlooked. Our results showed however, that attention must be paid to all patients over the long-term to prevent declines in social activity levels of high-functioning individuals. Therefore, interventions to maintain or improve social activities of comparatively high-functioning elderly patients with stroke must be considered in community-based integrated care systems in local communities in Japan.

Limitations

This study has some limitations. The lack of FAI data on the social activities of study patients prior to stroke onset prevented us from identifying whether they had been socially inactive before onset or had become inactive since the event. Future studies are required to track the outcomes of patients whose status had been assessed before stroke. Furthermore, many patients who did not respond 1 or 3 years after discharge possibly have had poor function; they may have dropped out as they had entered an assisted living facility or had died. Therefore, our results must be considered in light of the possibility that our study population included a high proportion of patients whose function was comparatively good.

Since we used BI as a self-report, the reliability of the data may be lower than that rated by clinicians; the results should therefore be interpreted with caution.
Conclusions

We investigated the social activities of patients with stroke living at home 1 and 3 years post-discharge following inpatient rehabilitation. The median FAI declined significantly from 23 points at 1-year post-discharge to 19 points at 3 years post-discharge. The negative factors associated with inactivity according to the total FAI at 3 years post-discharge were cognitive dysfunction and dependence in ADLs; sex (specifically male) and depression were characteristic negative factors associated with the domestic subscale and leisure/work subscale scores, respectively. Independence in ADLs was associated with a decline in the FAI from 1 to 3 years post-discharge. Maintaining and increasing the social activity level are essential for the prevention of mental and physical frailties and for improving the quality of life. Therefore, health and social welfare-associated professionals, and particularly occupational therapists working in local communities must tailor interventions individually considering the identified negative factors; long-term changes in social activities in high-functioning patients should also be considered.

Declaration of Interest

No potential conflict of interest was reported by the authors.

Funding

This study was supported by University Grants in Shinshu University.

Acknowledgment

We are grateful to the staff and patients of our hospital for their support.

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