Self-Efficacy to Perform Activities of Daily Living Predicts Independence in Activities of Daily Living in Subacute Stroke Patients

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Abstract—**This study was purposed to investigate the characteristics of self-efficacy to perform activities of daily living (ADL), characteristics of independence in ADL, and correlation between self-efficacy to perform activities of daily living (ADL) and independence in ADL in subacute stroke patients. The study was a descriptive correlation design. Forty-eight participants were recruited with mean age 57.23 (7.80) years, mean days of stroke onset 6.06 (5.00) days, who diagnosed with ischemic stroke. Modified Stroke Self-Efficacy Questionnaire (MSSEQ) measured self-efficacy to perform ADL and Functional Assessment Measure (FIM+FAM) measured independence in ADL. The influencing variables of participant such as age, gender, BI Score, side stroke and participant knowledge were not significantly correlated to self-efficacy to perform ADL and independence in ADL. The mean score of self-efficacy to perform ADL was at a moderate level (67.7%) and the mean score of independence in ADL was at a moderate dependence (50.5%). A positive and significant modified correlations were found between self-efficacy to perform ADL and independence in ADL (r = .30, p = .05). Self-efficacy to perform ADL predicted 7% of the variance in the independence in ADL. This finding indicates higher self-efficacy to perform ADL of subacute stroke patients contributes to more independence in ADL. The description of initial level of self-efficacy to perform ADL in early phase rehabilitation following stroke as a reference to design continuous intervention to enhance self-efficacy and functional independence for stroke patients.**

Keywords-self-efficacy; independence; activities of daily living; subacute stroke patients.

I. INTRODUCTION

Stroke has been affected negatively on activities of daily living (ADL) in stroke patients and independence in ADL became a significant concern in the acute and continuing care. Independence in ADL refers to the individual's ability to perform and complete the activities without assistance from another [1]. Previous studies showed a high number of stroke survival had difficulties to perform ADL independently that they required some assistance or fully dependent [2, 3,4,5].

Several factors influenced the independence in ADL, including personal characteristics (e.g., age and gender), stroke severity (e.g., physical and cognitive dysfunction), were strong predictor factors [6]. In addition, for most stroke patients, psychological disturbances affected behavior, mood, orientation, and overall health rating [7]. One of the psychological concerns of stroke patients is self-efficacy to function in daily life, which affected the well-being [8]. Furthermore, self-efficacy had significantly influenced the uptake and maintenance of behavior to perform activities independently after a stroke [9].

Self-efficacy is a key factor that may influence outcomes to overcome the difficulties that stroke patients encountered in their daily life [10]. Self-efficacy describes people's belief in their ability to accomplish and succeed in an achievement or a task and high level of self-efficacy shows confidence to produce designated performance in a specific situation [11, 12, 13]. The previous studies showed that the chronic stroke patients who had a high level of self-efficacy in mobility and ADL had the functioning better in daily activities than stroke patients who had low self-efficacy [14, 15]. The level of self-efficacy to function in daily life in stroke patients was an essential factor that may influence the outcome of stroke patients' recovery for their ability in daily activities [8, 14]. These previous findings revealed that the influence of self-efficacy reflects a persistent in a relationship on functional outcome of stroke patients.

Previous studies examined the association between self-efficacy and functional outcomes and aspects of quality of life more in the chronic stroke patients than subacute ones. In the chronic stroke patients were found poor outcomes in that could be influenced by chronic disabilities induced dependency in ADL, depression, social economic status, and spiritual [16]. These factors impacts them not to obtain continuous therapeutic support and affect their belief of

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functional capability. Subacute stroke is he subacute period after a stroke refers to the time when the decision to not employ thrombolytics is made up until two weeks after the stroke occurred [17]. However, in subacute stroke phase is essential to explore stroke patients' belief for their capability to active physically because in this phase stroke patients are more stable and begins to participate actively for rehabilitation. Such the benefit of knowing the relationship between self-efficacy to perform ADL and independence in ADL among subacute stroke patients can be contributed to design the appropriate intervention for enhancing functional performance of independence in ADL in early rehabilitation phase for stroke patients. Therefore, the aim of this study to investigate the the characteristics of self-efficacy to perform ADL, characteristics of independence in ADL and relationship between self-efficacy to perform ADL and independence in ADL in subacute stroke patients.

II. METHODOLOGY

A. Design

This study used the descriptive correlational design to investigate the correlation between self-efficacy to perform ADL and independence in ADL. This study was conducted at neurology ward of two public hospitals in the DKI Jakarta province, Indonesia.

B. Participants

The purposive sampling of hospitalized stroke patients in the neurrology ward as participants were recruited for this study. The following inclusion criteria of participants: (1) diagnosed with stroke with cerebral infarction (ICD-10, Code:163), (2) age above 18 years old, (3) Glasgow Coma Scale (GCS) score 14-15, (4) Barthel Index (BI) score <75, (6) Mini Mental State Examination (MMSE) score ≥ 24, (7) adequate vision and hearing (8) able to give the verbal or written informed consent, (9) contactable by telephone or using text messaging, (10) no Exclusion criteria have: (1) the signs of intracranial pressure, and (2) unstable vital signs and neurology during the collected data.

C. Measures

Participants' characteristics and stroke information

Demographic Data and Stroke Information Questionnaire (DDSIQ) collected the participants' characteristics and stroke information, the data included age, gender, educational level, the level of activities before the stroke, number of strokes, side of stroke, underlying disease, family history of stroke, knowledge of improving ADL after stroke.

Self-efficacy to perform ADL

The self-efficacy to perform ADL was measured by the Modified Stroke Self-Efficacy Questionnaire (MSSEQ) measured. This instrument was adapted from Stroke Self-Efficacy Questionnaire (SSEQ) developed by reference [18]. The SSEQ consists of 13 questions to measure self-efficacy judgments in particular domains of functioning relevant to individuals following a stroke. The MMSEQ consists of 16 questions that was modified to completed the domain of self-efficacy concerning ADL after stroke [19]. The MMSEQ used the scale of SSEQ ranges from 0 to 3. The score of 0 indicates not at all confident and 3 indicates very confident [20]. The total score ranges of MSSEQ from 0 to 48 that higher score indicated higher self-efficacy to perform ADL. For this study, the MMSEQ had good face validity and high internal consistency with Cronbach's Alpha was .95 [19]. For interpretation, the researcher divided the total score into three levels that was based on the range of score (difference between the largest and smallest score) divided by the number of class interval [21]. The three levels of MSSEQ score was 0-16 (low), 17-36 (moderate), and 37-48 (high).

Independence in ADL

Independence in ADL was measured by Functional Assessment Measure (FIM+FAM). Functional Assessment Measure originally developed by clinicians at the Santa Clara Valley Medical Center (SCVMC) in the late 1980's and in 1995 a UK FIM+FAM user group developed the UK version of the FAM n collaboration with SCVMC [22]. This measure is a translation of the Functional Assessment Measure (FAM) which is an additional 12 point functions of the Functional Independence Measure (FIM).

FIM + FAM functions Consist of 30 items divided into 16 items of motor function (7 items of self-care, 2 items of sphincter, 4 items of transfer, and 3 items of locomotion) and 14 items of cognitive function (5 items of communication and 9 items of social cognition). FIM + FAM rates on a 7 scales to describe the stage of total assistance (score of 1) to complete independence (score of 7) on the performance of ADL. FIM + FAM also categorizes the level of independence related to the presence or absence of a helper. The total score ranged from 30-210 that higher scores indicated more independence for stroke patients. The FIM+FAM had good inter-rater reliability with Cohen's Kappa = .78 [19].

For interpretation, the researcher divided the total score into three levels that was based on the stage of independence scale. The three levels of FIM+FAM score was 30-75 (complete dependence), 76-165 (modified dependence), and 166-210 (independence). For the interpretation of subscale, the result of the total score of subscale divided the item number adjusted to the stage of FIM+FAM for complete dependence (score of 1-2), modified dependence (score of 3 to5), and independence (score of 6-7).

D. Procedure

The Research Ethic Committee of Faculty of Nursing, Prince of Songkla University in Thailand, the Research and Development Board of Ministry of Health Republic of

Indonesia, and the Directors of Hospitals approved the ethical research of this study. Through the head nurse of neurology ward, the first researcher obtained potential participants who met the inclusion criteria and interested to participate. The first researcher, then gave the explanation of the purpose of the study, informed consent, procedures, risk, benefits, and confidentially. Research assistants collected the data for DDSIQ, MSSEQ, and FIM+FAM

E. Analysis of Data

Descriptive statistics (mean, standard deviation, frequency, and percentage, minimum and maximum) were used to analyze and describe characteristics of the participants, self-efficacy to perform ADL and independence in ADL. The assumptions underlying bivariate analysis for descriptive correlational study were tested. The assumptions of correlation and simple linear regresion (normality, linearity, and homoscedasticity) were met. The correlation between self-efficacy to perform ADL and independence in ADL was examined using Pearson's Product Moment Correlation. A simple linear regression was used to predict the value of self-efficacy to perform ADL for a given value of independence in ADL.

III. RESULTS

Participants' Characteristics

The participants' characteristics and stroke information are shown in Table 1. Forty-eight stroke patients (19 female and 29 male) in sub-acute stroke phase (stroke onset: M = 6.06, SD = 5.00) with average age 57.23 (SD = 7.80) years, participated in this study. They had intact cognitive abilities with MMSE score M = 28.35 (SD = 1.63), full consciousness with GCS score was 15, and BI score M = 24.79 (SD = 6.44). The majority of participants were right-handed, had first stroke, had were mild and moderate activities before the stroke, had hypertension as an underlying disease, and no incident of family history of stroke. Furthermore, nearly 90% of the participants did not have knowledge about improving ADL after stroke. The variables of participant characteristics and stroke information, such as age, gender, BI Score, side stroke and participant knowledge were not significantly correlated to self-efficacy to perform ADL and independence in ADL.

Self-efficacy to perform ADL and independence in ADL

As shown in Table 2. The mean score of self-efficacy to perform ADL was M (SD) = 32.50 (14.38), indicated the moderate level of self-efficacy to perform ADL. The high level of self-efficacy to perform ADL was higher than moderate level and only 20.8 % of participants had low levels of self-efficacy to perform ADL.

TABLE 1. PARTICIPANTS' CHARACTERISTICS AND STROKE INFORMATION (N = 48)

Characteristic	***n***	***%***
Age (M = 57.23, SD = 7.80, *Min-Max* = 45-70 years)		
≤ 55 years	18	37.5
> 55 years	30	62.5
Gender		
Female	18	37.5
Male	30	62.5
Religion		
Muslim	43	89.6
Christian	5	10.4
GCS Score (M = 15, SD = 0)		
MMSE Score (M = 28.35, SD = 1.631, *Min-Max* = 25-30)		
BI Score (M = 24.79 (SD = 6.44).		
Days of stroke onset (M = 6.06, SD = 5.00, *Min-Max* = 3-20 days)		
Marital Status		
Married	43	89.6
Single	1	2.1
Widow/Widower	4	8.3
Educational Level		
Elementary school	13	27.1
Junior high school	12	25
Senior high school	17	35.4
University	5	10.4
No formal schooling	1	2.1
Level of activities before stroke		
Mild (e.g., lying/cooking/driving)	23	47.9
Moderate (e.g., ≥ one home activities)	20	41.7
High (e.g., farming)	5	10.4
Living arrangement		
Alone	2	4.2
Spouse/family	46	95.8
Number of strokes		
First	38	79.2
Second	5	10.4
More than two times	5	10.4
Side of stroke		
Right	22	45.8
Left	26	54.2
Family history of stroke		
Parent	15	31.3
Sibling	4	8.3
No history	29	60.4
Underlying diseases		
Hypertension	43	89.6
Diabetes Mellitus (DM)	1	2.1
Heart Disease	2	4.2
Two or more than underlying diseases	2	4.2
Participants' knowledge of improving ADL		
No	43	89.6
Yes	5	10.4

Note. M = Mean, SD = Standard Deviation, n = frequency, % = percentage

The mean score of total independence in ADL was *M* (*SD*) 106.10 (29.13), indicated modified dependence for ADL. The majority of participants had scores of FIM+FAM (76-165) for modified dependence about 83.3% that was higher than complete dependence. No one of the participants had an independence level of ADL. The mean score of total motor subscale divided by 16 items was 1.94, interpreted as the level of complete dependence in ADL. The mean score of total cognitive subscale divided by 14 items was 5.36, interpreted as the level of modified dependence in ADL.

Correlation of self-efficacy to perform ADL and independence in ADL

The results of Pearson correlation analysis show in Table 3. The finding showed a positive correlation and indicated the moderate correlation between self-efficacy to perform ADL and independence in ADL ($r = .30$, $p < .05$).

TABLE 2. FREQUENCY, PERCENTAGE, MEAN, STANDARD DEVIATION, AND LEVEL OF SELF-EFFICACY TO PERFROM ADL AND INDEPENDENCE IN ADL (*N* = 48)

Self-Efficacy to perform ADL	***n***	***%***	**Level**
MSSEQ (0-16)	10	20.8	Low
MSSEQ (17-36)	17	35.4	Moderate
MSSEQ (37-48)	21	43.8	High
Total Self-efficacy to perform ADL: *M* (*SD*) = 32.50 (14.38), *Min-Max* = 7-48			Moderate
Independence in ADL	***n***	***%***	**Level**
FIM+FAM (30-75)	8	16.7	CD
FIM+FAM (76-165)	40	83.3	MD
FIM+FAM (166-210)	0	0	I
	***M* (*SD*)**	***Min-Max***	**Level**
Total independence in ADL	106.10 (29.13),	41-158	MD
Total of Motoric	31.02 (12.31)	16-60	CD
Self-care	15.73 (8.09)	7-37	CD
Sphincter	5.67 (3.05)	2-12	MD
Transfer	6.15 (3.15)	4-16	CD
Locomotion	3.48 (1.13)	3-7	CD
Total of Cognitive s	75.08 (20.90)	25-98	MD
Communication	26.08 (7.60)	7-35	MD
Social Cognitive	49 (14.05)	18-63	MD

Note. *M* = Mean, *SD* = Standard Deviation, *n* = frequency, % = percentage
Min-Max = Minimum-Maximum
CD = Complete Dependence, MD = Modified Dependence, I = Independence

Additional correlations shown that dimension of independence in ADL for both motor and cognitive had positive and moderate to high correlation with total independence in ADL.

To examine the influence of self-efficacy to perform ADL, a simple linear regression was calculated to predict independence in ADL based on self-efficacy to perform ADL (see Table 4). A significant regression equation was found F (1,46)= 4.35, $p < .05$), with an adjusted R^2 of .07. Adjusted R^2 indicated that self-efficacy to perform ADL predicted 7 % of the variance in independence in ADL. Participants' predicted independence in ADL is equal to 86.74 + .60 (self-efficacy to perform ADL) score when self-efficacy to perform ADL was measured. Independence in ADL increased .60 for each score of self-efficacy to perform ADL.

TABLE 3. CORRELATION BETWEEN SELF-EFFICACY TO PERFROM ADL AND INDEPENDENCE IN ADL (*N* = 48)

	1	2	3	4
1. Independence in ADL for Motor	1			
2. Independence in ADL for Cognitive	.51**	1		
3. Total Independence in ADL	.79**	.93**	1	
4. Self-efficacy to perform ADL	.22	.28	.30*	1

Note. *$p < .05$, **$p < .01$

TABLE 4. PREDICTOR VALUE INDEPENDENCE IN ADL ON SELF-EFFICACY TO PERFROM ADL (*N* = 48)

Predictor	***B***	***SE of B***	***β***	***t***	***p***
(Constant)	86.74	10.13		8.56	.00
Self-efficacy to perform ADL ($F = 4.35$, $R^2 = .07$)	.60	.29	.29	2.09	.04

Note. *F* = Anova, R^2 = Adjusted R^2, *SE of B* = (Standar Error of *B*), *β* = beta

IV. DISCUSSION

Participants' characteristics

The findings of this study showed that that most participants who aged more than 55 years old were higher than those who aged 55 years old or less. The younger stroke patients who were ≤ 55 years had a good functional outcome than older [23]. The proportion of male participants in this study was higher than female in both groups while the prevalence of Indonesian stroke patients for male and female was in equal proportion [24]. Mild and moderate activities were dominant as level activities before stroke in the participants.The level of activities before the stroke was correlated with level of physical activity after stroke. A study showed that 62% of stroke patients did not achieve the recommended amount of physical activity associated with their inactive physical level before the stroke and physical activity was correlated with the Barthel Index score [25]. In this study, the mean of the BI score was 24.79 defined a poor outcome for functional independence [26].

Stroke information

This study found average days of post stroke onset on baseline assessment was 6.06 days. This average day was in the subacute stroke, which is 48 hours to weeks post stroke onset [27]. The subacute stroke phase generally indicates the stabilization of the stroke patients for vital signs, neurological signs, and beginning for active rehabilitation. Participants who had a first stroke were higher than those who had a second recurrent stroke or more. It was also supported that there was 795,000 people who had stroke attack each year and 76.7% of that population was first stroke and the rest of them was recurrent stroke [28]. Most

participants had no incident of family history of stroke.The stroke history in this study explored the past ADL history of participants' family member who had strokes and it can be compared with what the participants' expectation for their ADL progress. This study found that the most participants did not have knowledge for improving ADL. This finding was supported by a systematic review, which explored the most stroke survivors did not have a greater knowledge of stroke despite they had experienced such a life-changing event [29]. It can be assumed that inadequate knowledge of participants could be correlated with the high number of first stroke patients due to their first moment experience and changed their life.

Level of self-efficacy to perform ADL

The finding of this study showed that the level of mean self-efficacy to perform ADL among subacute stroke patients was at a moderate level. This finding indicated an initial belief of stroke patients to take action after stroke for actual daily activities including self-care (eating, grooming, bathing, dressing, toileting), body transfer, walking, and problem solving regarding ADL. This low level of self-efficacy to perform ADL among stroke patients was detected when they were still in hospitals or in the subacute phase of stroke. It might be influenced by their personal characteristics (e.g. age, gender), worse physical functioning, lack of experiences due to a first stroke, and lack of knowledge to improving ADL following stroke [13, 30, 31].

This study also found the highest percentage for high levels of self-efficacy to perform ADL among participants. Participants who had higher self-efficacy to perform ADL might receive information and supports related stroke from health care workers. They used appropriately this interaction and they might built naturally their belief by exposing the sources of self-efficacy. These sources will enhance the self-efficacy that are enactive mastery experience, vicarious experience, verbal persuasion, and physiological and state [12, 13]. For instance, the enactive mastery experience might be built by involved with other actual performances of physical and occupational therapy from the neurological and rehabilitation care; vicarious experience was obtained from the social model from other stroke patients in performing ADL; verbal persuasion was provided from other professional and their family caregiver; and physical and emotional exploration was informed from professional health care.

On the other hand, participants with lower self-efficacy might not have enough belief about their capabilities. Besides personal characteristic factors, participants who had lower self-efficacy to perform ADL cannot interpret significantly the source information of self-efficacy that was naturally provided or the dosage of intervention from health care provider and family support not enough to create a higher self-efficacy to perform ADL. Stroke patients who not involved in the intervention (based on sources of self-efficacy) to enhance their confidence of functional performance had lower self-efficacy than those who participated in the intervention [33, 34, 35].

The low and high self-efficacy was produced by interaction with the responsive and unresponsive environment [13]. People with a high level of self-efficacy will be responsive to environmental change, which promotes success and improves long-term motivation and will increase their efforts toward change when they were in unresponsive environment. People with low self-efficacy will fall into depression when they know the environment will change while their lack of belief in their own abilities and they will be completely inactive due to helpless and pointless to the unresponsive environment. Depression was found in the chronic stroke patients and they showed a decrease of self-efficacy in functional performance [30, 36].

Level of independence in ADL

A moderate dependence dominated the level of independence in ADL among participants while the level of complete dependence was less than 20% of participants in this study. This showed that the stroke had negative effects on the activities of daily living in subactue stroke. In this study, the complete and moderate dependence might be related to the low score of BI because the component BI also measured in the part of FIM+FAM. An acute BI score can be used in the prediction of subsequent independence in activities of daily living (ADL) and to assist in the definition of acute stroke rehabilitation goals [37]. Patients with a BI< or =40 exhibited two ADL recovery outcomes (improved and no change) at 6 months [37]. A prospective cohort study of 163 patients with first-ever ischemic stroke admitted to a rehabilitation center revealed that none of the patients were functionally independent (defined as a modified BI score of 100) on rehabilitation admission, but this improved to 8.6% on discharge, and 32.1%, 41.4% and 50.3% at 3, 6 and 12 months after stroke, respectively months [38]. Long-term stroke outcomes are inadequate, with 39% of community-dwelling stroke victims reporting ongoing problems with basic ADL, 20% reporting difficulties walking 50 meters or negotiating stairs and more than half reporting limitations in instrumental ADL [2]. This also showed that 25 to 74 % of stroke survivors require some assistance or fully dependent on a caregiver for ADL [39].

Regarding the dimension of independence in ADL, the total score of motor dimension was lower (complete dependence) than the total score of the cognitive dimension (modified dependence). This can be explained that participants in this study ranged MMSE score at 25-30 (good cognitive) while they had right or left side stroke with difficulties in motor function. Physical factors such as stronger pain and lower physical function showed direct relationships with a lower independence level of ADL, both in the acute phase and after six months of the stroke [40]. Furthermore, the strength of the paretic upper limb showed as a strong predictor of the ADL outcome [41]. Self-care, transfer, and locomotion dimension also were in the complete dependence that used the strength and motor

coordination, which was affected by stroke. Communication and social cognitive dimensions were in the modified dependence among subset stroke patients that this level should become attentive to support the dimension of motor ability for achieving independence in ADL. Independence beyond just physical independence is required; however, it should also include the ability to make the decision to be autonomous, and to have control over one's life [42].

The correlation between self-efficacy to perform ADL and independence in ADL

A positive correlation between self-efficacy to perform ADL and independence in ADL with a significant level of .05, indicating the higher self-efficacy to perform ADL contributing the higher independence in ADL. This finding was similar to previous studies that found self-efficacy was related to functional outcome among stroke patients [8, 14, 15, 43]. A moderate correlation in this study was similar to previous findings that Significant moderate correlations were found between SCSE to independence in BADL (r = 5.59, p < .01) [15].

This relationship between self-efficacy to perform ADL and independence in ADL in this study can be explained by supporting reasons, including religion beliefs, family and healthcare team support. Majority participants were Moslem who believes that a disease created by their God, must be has its remedy. The influence of Muslim religious beliefs of self-efficacy within stroke rehabilitation that might be strengthened by patients' feelings of partnership with God, which evoked hope and strength by retaining continuity of the moral self and viewing disability as a test of resilience [44]. A correlation study explained the cultural factor, particularly in religion influenced engagement in secondary stroke prevention program and this study suggested religious and spiritual inclination should be integrated into stroke self-care self-efficacy [45].

In Indonesian culture, family members spent more time to accompany the patients and especially in taking care the patient's ADL as a support system when patients were in hospital. The family support was believed not only for physical but also physiological support to enhance patient's recovery. The perceived social support as significant predicting factors to the functional performance of daily activities [46]. Another social support can be delivered by healthcare workers who motivate the stroke patients in their usual care or designed interventions in enhancing self-efficacy. Previous studies found that stroke patients constructed their self-efficacy as they improved their independence in ADL when they engaged in the self-efficacy based intervention applied source of self-efficacy [30,48]. This previous study conducted walking intervention; significantly higher self-efficacy in walking and walking functional capacity in patients of the experimental group than those in the control group [25]; self-efficacy in balance and functional walking was statistically significant improvement in the walking intervention group after six weeks [47].

In this study, the description of self-efficacy to perform ADL was initial beliefs of the participants that can be as a predictor about 7% for future belief and confidence to act in their live. Nevertheless, it should be considered whether the development of self-efficacy to perform ADL in stroke patients would be consistent for positive or negative effects. In the previous study, the undesirable of level of self-efficacy (less than high level) was found in chronic stroke patients (15, 30, 33, 34, 48). This reflected that self-efficacy could change for increasing and decreasing among patients following stroke phase time, particularly when they faced the environment change regarding obstacles and effort for reaching the functional goals.

Despite the analysis and findings in the subacute stroke patients, the limitations of this study included using a small sample size that limited the generalization of the findings. Although this study showed the initial beliefs to perform ADL, one-time measurement of self-efficacy and its relationship with independence in ADL might not generalize the development of self-efficacy following stroke. It is therefore substantial to investigate the self-efficacy across the time period and perform the intervention to enhance the self-efficacy in the future investigations.

V. IMPLICATION

Nurses should learn and practice about self-efficacy assessment among stroke patients and its correlation with functional performance. Assessment of self-efficacy to perform ADL should be implemented by nurses at early phase rehabilitation following stroke. The initial self-efficacy can predict the functional performance of stroke patients and this can be referenced for advance practice nurses to design appropriate interventions to enhance self-efficacy to perform ADL and independence in ADL. These research findings can be as database for developing the experimental research to evaluate effectiveness of self-efficacy based intervention to improve independence in ADL among subcute stroke patients.

VI. CONCLUSSION

This descriptive correlation study found that the mean score of self-efficacy to perform ADL was in the moderate level and the level of independence in ADL was in moderate dependence among participants of subacute stroke patients. The study findings also showed that the self-efficacy to perform ADL correlates positively and moderately with independence in ADL among participants. The self-efficacy to perform ADL can predict the independence in ADL when the participant characteristics were not significantly correlate with self-efficacy to perform ADL and independence in ADL. This study provides the description of initial level of self-efficacy to perform ADL in early phase rehabilitation following stroke as a reference to design continuous intervention to enhance self-efficacy and functional recovery for stroke patients.

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