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Effect of rehabilitation program on ability to perform activities of daily living and quality of life of physically disabled persons

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ABSTRACT

Background: The encouragement of a continuous rehabilitation program consisted of a manual, training and knowledge distribution about disabilities plus skills with appropriate techniques based on rehabilitation principles, follow-up and visiting the patients, and providing appropriate assistive devices can help the physically disabled persons return to activities of daily living and improve their quality of life.

Objectives: To investigate the results of rehabilitation program aimed at helping the physically disabled persons to be able to return to their activities of daily living and improve quality of life.

Materials and methods: This quasi-experimental research employed one group pretest – posttest design. Thirty physically disabled persons (19 males, 11 females) from Chiang Dao district, Chiang Mai were recruited by the inclusion and exclusion criteria. A Rehabilitation Program for Physically Disabled Persons with 10 weeks implementation program were developed from the patterns of care given to patients with cerebrovascular disease, from a literature review focusing on rehabilitation, knowledge and skill training for rehabilitation of physically disabled including follow-up and visiting the patients, and the appropriate assistive devices. It was intended to enhance the patient ability to perform their routine activities and to prevent complications. The data collection instruments consisted of activities of daily living assessment, physical complications questionnaire, anxiety and depression assessment, and quality of life questionnaire. Data were analyzed using descriptive statistics and McNemar test.

Results: After implementing the program, the physically disabled person had a significant increase in the level of ability in performing activities of daily living including mobility and overall activities of daily living (p<0.001 and p=0.003, respectively). The level of quality of life included social relationships, environment and overall quality of life were also increased significantly with p=0.048, p<0.001 and p<0.001, respectively. They also expressed some physical complications, and it was found that they had a significant increase in ankylosis and pain (p=0.031 and p<0.01, respectively). Additionally, the psychological complications including an anxiety and a depression from anxiety and depression assessment had significantly decreased after participated this rehabilitation program with p<0.001.

Conclusion: The rehabilitation program could be used as a guide to help rehabilitate the physically disabled persons in the community to continuously and efficiently improve their quality of life.

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Introduction

The World Health Organization (WHO) defined disabilities as a limitation in doing any activity, including being limited to engage in social functions. WHO reported that one billion people (about 15%) in the world were facing problems and the condition of disabled persons, which were 10% more than estimated in 1970. The increased number of disabled persons was due to the increase of chronic non-communicable diseases and the approach of an elderly society worldwide.[1] The reported of disabled persons in Thailand in September, 2016 revealed that 1,657,438 people were issued a disabled person card, which was 2.5% of the total population. Among these were the physically disabled person, 794,648 persons (48.47%), and were the highest in the group. Classified by age, they were in the range of 22-59 years of age and >60 years of age, and physically disabled persons came in the highest (47.54% and 53.65% respectively).[2] The causes of the disability were illness and some diseases (30.79%) mostly, such as hypertension, diabetes mellitus, coronary artery disease and epilepsy.[2] This argument corresponds to the research on disability preventive and surveillance system where it was found that the causes of physical disabilities came from such diseases as cerebrovascular disease, osteoarthritis, bone deformity, myo-paralysis, heart disease, diabetes mellitus, cancer, epilepsy and so on.[3] These diseases contributes to disability of various body systems causing difficulty of physical movement and dexterity, limiting people from performing daily living or routine activities, disability to help themselves or to work as well as loss of efficiency.[4] It can also result in physical complications physically such as ankylosis, pain and decubitus and mental complications, such as depression and anxiety affecting the patients' quality of life,[5] These can consequently, lead to the social and economic problems.

According to the expectation report by WHO, the situation of disability in the community was dramatically increasing. The data from Chiang Dao District, Chiang Mai were consistent with this report. According to the data of the medical rehabilitation service given to disabled patients at Chiang Dao Hospital in the fiscal year 2012-2016, as many as 713 patients with a disability certificate came for service and among them, the physically disabled persons formed the highest number of 480 cases or 67.32%. Although nowadays there is a wide range of rehabilitation services provided for the disabled, there are several problems occurred in the Chiang Dao district, Chiang Mai. One of the critical issues is that the patients are more likely to take a long time coming to receive the services because the long distance between home and the hospital caused by the geographic features. This obstruction also limits the medical personnels to deliver the services outside the hospital. Moreover, there are limitations on ethnic diversity, cultures and local living standard, and the number of medical personnel. These obstructions primarily cause the disabled lack of the opportunity to receive an appropriate and continual rehabilitation. If the disabled experiences this kind of difficulty incessantly, at the end, their quality of life will be downgrades. This incidence will more or less negatively affect the community, and overall economic system.

Currently, rehabilitation guidelines for patients suffering from cerebrovascular disease suggested that the health care for rehabilitation should be focusing on holistic health care. The primary objective is to gain more the recovery of cerebrovascular disease patients, After a disability occurred the efficacy of the rehabilitation depends on several factors like the therapist team, the duration of treatment and most importantly the patient's cooperation as well as their family members or caregivers.[6,7] Previous studies have examined the components of rehabilitation services for physically disabled persons. It was commonly found that the physically disabled persons need to receive medical rehabilitation services in order to adjust their living environment suiting for their lifestyle and society. Moreover, they have to get access the services and rehabilitation information regarding the disabled from the government, caregiver or community like home visiting by medical personnels for instance.[8] A model of caring for the physically disabled persons have been widely provided since it is an important part of promoting proper rehabilitation for the physically disabled persons. It was claimed that the pattern of caring for physically disabled persons could improve their quality of life. And it must be completely composed of personal, family, community and social factors. The results from the rehabilitation services which were included by the components mentioned above indicates that the physically disabled persons could get better in their activities performing ability of daily living. As a result, this consequence could also lead the physically disabled persons to have a better quality of life. It prevents the complications or reduces the rate of complications after the disability.[9,10] However, it can be stated that there has been very little development of rehabilitation programs for this group of the disabled persons and it is a component that is not covered by the rehabilitation as mentioned above. Example is a model of a rehabilitation program for the physically disabled persons developed from principles and techniques of specialized rehabilitation. By training to educate and practice about rehabilitation for the physically disabled, the rehabilitation program consist of physical therapy exercise (to strengthening muscles and flexibility to prevent limitation of joint motion, contraction of muscles and ligaments, as well as techniques to reduce muscle spasms), bed mobility and gross motor function training, balance training, ambulation with assistive devices training, providing appropriate assistive devices, and follow-up visits to the disabled persons (Home Health Care). In this research, the results of the rehabilitation program for physically disabled persons were investigated as the main interest. This program was conducted by applying and developing guidelines for a rehabilitation program for this group of patients and the patterns used for the rehabilitation from the previous studies. Also, it was included the complement of training and knowledge distribution about disabilities plus skills training on rehabilitation of physically disabled persons with appropriate techniques based on rehabilitation principles, as well as follow-up and visiting the patients. The appropriate assistive devices and a rehabilitation manual for primary care of this group of

patients and lifestyle were provided in order to ensure that they will be receiving continuum care and rehabilitation as much as possible. The community was also encouraged to take part in the process to enable the physically disabled patients to conduct their daily life to the full potential and competence in their community and society.

Objectives

To investigate the results of rehabilitation program aimed at helping the physically disabled persons to be able to return to their activities of daily living and to improve the quality of life.

Materials and methods

A quasi-experimental research (one group pre-test-posttest design) was utilized in order to investigate the outcomes of the rehabilitation program for physically disabled persons in their ability to conduct their daily living activities and their quality of life. The populations were 480 physically disabled patients at Chiang Dao District, Chiang Mai Province. The sample size was calculated by Power Analysis with the power =0.08, Alpha =0.05 and effects =0.50 before checking with the Burn and Grove Table.[11] The result was 24 samples. With the 20 percent dropout rate considered, sample of 30 persons were included. The recruitment criteria were as followed 1) the physically disabled person must be 20 years of age or older and hold a disability certificate, 2) having been a chronic patient due to cerebrovascular disease before the disability occurred and having had the symptoms for not longer than 3 years, 3) having a Modified Barthel Index (Thai version) less than 75, 4) willing to participate in the research and residing in the area during the research period, 5) having some relatives to look after him/her. Patients were excluded if 1) they had unable to communicate in the Thai language and not able to communicate verbally, 2) having double-disability of other kinds of diseases, 3) withdrawing from the research during the process.

Research tools can be classified into two parts. First, the rehabilitation program for physically disabled persons which was developed from 1) the patterns of care given to patients with cerebrovascular disease and 2) from a literature review focusing on rehabilitation for this group and knowledge and skill training for rehabilitation of physically disabled persons by physical therapists and occupational therapists. It was intended to enhance the patients' ability to perform their routine activities and to prevent complications. This came in the forms of a manual for rehabilitation of the physically disabled persons, training on caring of the physically disabled persons. Furthermore, there was a determination on the content validity of the tools by five experts including a physical therapist, a doctor, a nurse, an instructor of physical therapy and a nursing instructor. Results of determination on the content validity of the tools were reported as follows.

Item-Objective Congruence (IOC) came out at 0.95. Second, the data collection form consisting of an ability evaluation form or Modified Barthel Index.[12] A reliability test showed Cronbach's alpha Coefficient at 0.91. The WHOQOL – BREF – THAI[13] had reliability corresponding to Cronbach's alpha Coefficient at 0.85. The questionnaires assessing anxiety and depression or the Hospital Anxiety and Depression Scale (HADS)[14] had reliability on Cronbach's alpha Coefficient at 0.80 whereas those of the physical complications after disability took place based on Cronbach's alpha Coefficient was 0.86.

This research was approved by the ethical committee of the Interdisciplinary Program in Public Health Science, the Graduate School, Chiang Mai University, on June 8, 2016 (No. 015/2017). Moreover, the process of operation was informed about the research objectives and protecting the rights of the sample group and the caregivers. After that, proceeding with data collecting before providing the rehabilitation program to the physically disabled persons using questionnaires for general information, and the evaluation form for the ability to perform daily living activities as well as questionnaires about the physical and psychological complications, including questionnaires about their quality of life. In the first week holding training session to provide knowledge and skills practice on rehabilitation for physically disables persons consisting of content: knowledge, understanding about disabilities (a 60 minutes lecture), taking care of a disabled person in a daily life basis, routine practice and emotional management (a 60 minutes lecture, 45 minutes of practice) and basic rehabilitation for physically disabled persons (a 90 minutes lecture, 75 minutes of practice). Then actual practice on rehabilitation for a physically disabled person, including follow-up and home visits, giving assistance related to equipment by a physical therapist, and occupational therapist and a caregiver. Home visiting took place in the 3rd, 5th, 7th and 9th weeks (4 times, 30-60 minutes each) and telephone follow-up in the 2nd, 4th, 6th and 8th weeks (4 times). Finally, evaluation after 10 weeks of the activities using the evaluation form on the ability to perform daily activities and a questionnaire on physical and mental complication as well as one on the quality of life. In this research, training was provided knowledge and skills practice on rehabilitation for physically disables persons. Including data collecting, telephone follow-up and home visits mainly operated by the researcher. (Figure 1)

Data Analysis

The SPSS version 17 (serial no. 5068035) was purposely used for the data analysis. The demographics data of sample were analyzed by descriptive statistics showing numerous parameters including frequency, percentage, mean and standard deviation. The level of competency in performing daily activities and quality of life were compared between before and after implementing the rehabilitation program by using the McNemar test p-value ≤0.05 were considered as statistical significance.

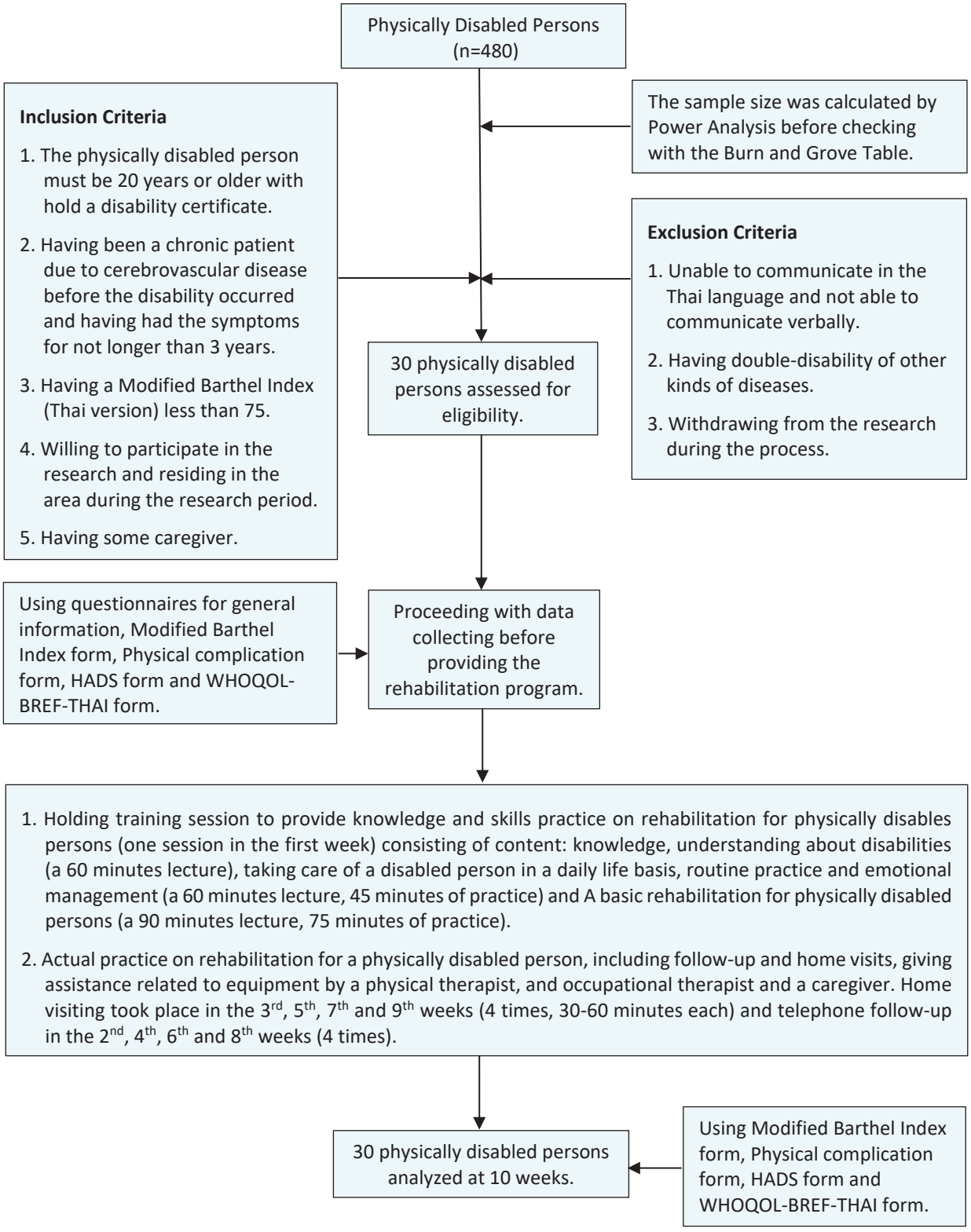

Figure 1. *Operating procedures*

Results

From the general data it was found that most of the physically disabled patients were male (63.3%) between 60-69 years old (43.3%). Their average age was 65.9±9.03 years old. The oldest physically disabled patient was 87 and the youngest was 49 years old respectively. The most two types of diseases in health conditions they generally had were hypertension (43.3%), followed by hypertension plus dyslipidemia (26.7%). The causes of disabilities had ischemic stroke (73.3%) and intracranial hemorrhage (26.7%). The duration of the disability were mostly 26-36 months (43.8%), with an average 19.23±12.19 months. Most of the patients were right to health access by universal coverage scheme (disability) (90.0%) (Table1).

Table 1 Personal data of physically disabled persons. (n=30)

Personal data	n	%
Gender		
Male	19	63.3
Female	11	36.7
Age (years)		
40–49	1	3.3
50–59	7	23.3
60–69	13	43.3
70–79	7	23.3
≥80	2	6.8
Mean±SD = 65.93±9.03 years, Min=49 years, Max=87 years		
Marital status		
Married	18	60
Widowed	8	26.7
Single	3	10
Divorced	1	3.3
Religion		
Buddhism	28	93.3
Christian	2	6.7
Educational Background		
Not education	3	10
Primary	22	73.3
Secondary/Vocational/Technical	5	16.7
Cause of Disabilities		
Ischemic stroke	22	73.3
Intracranial hemorrhage	8	26.7
Health Conditions		
Hypertension	13	43.3
Hypertension and dyslipidemia	8	26.7
Diabetes mellitus, hypertension and etc. (i.g. COPD, nephropathy)	5	16.7
Hypertension and etc. (i.g. Osteoarthritis Knee, Heart disease)	2	6.7
Dyslipidemia	1	3.3
Diabetes mellitus and hypertension	1	3.3
Periods of Disabilities (month)		
0-6	4	13.3
7-12	8	26.7
13-24	5	16.7
25-36	13	43.8
Mean±SD = 19.23±12.19 month, Min=3 month, Max=36 month		

Table 1 Personal data of physically disabled persons. (n=30) (continuens)

Personal data	n	%
Right to Health Access		
Universal Coverage Scheme (disability)	27	90
Government or State Enterprise Officer Scheme	2	6.7
Social Security Scheme	1	3.3
Income of Family per month (Baht)		
<5,000	12	40
5,000-10,000	13	43.3
10,001-15,000	3	10
>15,000	2	6.7
Mean±SD = 7,750±7,573.49 Baht, Min=1,500 Baht, Max=40,000 Baht		

Regarding the ability to perform daily routine after receiving rehabilitation, the ability to take care of themselves, mobility ability, excretory control and daily living performance of the sample group were improved. The sections that had statistical significance were Mobility ability and overall daily activity performance (p<0.001, p=0.003 respectively). It was also found that the sections on self-care and excretory control were better but with no statistical significance (p=0.090, p=0.120 respectively) (Table 2).

Regarding the quality of life, it was found that after the rehabilitation program, the physically disabled persons generally had a better quality of life in terms of physical, psychological, social relations and environment. Their social relations, environment and overall quality of life showed a statistical significance improvement (p=0.048, p<0.001 and p<0.001 respectively) while the physical and psychological improvement showed no statistical significance improvement (p=0.847, p=0.635 respectively) (Table 3). As for follow-up on their quality of life assessment, there was also a follow-up on complications emerging after the disability occurred, which could affect their quality of life. However, there were no incidents of decubitus in the sample group either before or after undergoing the rehabilitation. Nevertheless, after the rehabilitation, some incidence of ankylosis and pain decreased significantly (p=0.031, p=0.008 respectively) while shoulder joint subluxation and edema decreased but with no statistical significance. The anxiety and depression were significantly better as well (p<0.001) (Table 4).

Table 2 Comparison of competency levels in performing daily routine before and after the rehabilitation program. (n=30)

ADL	Self Care		Mobility Ability		Excretory Control		Overall	
	Before n (%)	After n (%)	Before n (%)	After n (%)	Before n (%)	After n (%)	Before n (%)	After n (%)
Very low	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Low	5 (16.7)	0 (0)	7 (23.3)	0 (0)	0 (0)	0 (0)	5 (16.7)	0 (0)
Moderate	7 (23.3)	1 (3.3)	7 (23.3)	4 (13.3)	11 (36.7)	2 (6.6)	17 (56.7)	5 (16.7)
High	13 (43.3)	10 (33.3)	16 (53.4)	15 (50.0)	3 (10.0)	5 (16.7)	8 (26.6)	20 (66.6)
Normal	5 (16.7)	19 (63.4)	0 (0)	11 (36.7)	16 (53.3)	23 (76.7)	0 (0)	5 (16.7)
***p* value**	0.090		0.001*		0.120		0.003*	

** p<0.05*

Table 3 Comparison of the ration of their quality of life before and after the rehabilitation program. (n=30)

QOL	Physical domain		Psychological domain		Social relationships		Environment		Overall	
	Before n (%)	After n (%)	Before n (%)	After n (%)	Before n (%)	After n (%)	Before n (%)	After n (%)	Before n (%)	After n (%)
Poor	5 (16.7)	0 (0)	2 (6.7)	0 (0)	5 (16.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Moderate	25 (83.3)	23 (76.7)	27 (90.0)	14 (46.7)	24 (80.0)	24 (80.0)	26 (86.7)	8 (26.7)	30 (100.0)	10 (33.3)
Good	0 (0)	7 (23.3)	1 (3.3)	16 (53.3)	1 (3.3)	6 (20.0)	4 (13.3)	22 (73.3)	0 (0)	20 (66.7)
***p* value**	0.847		0.635		0.048*		<0.001*		<0.001*	

** p<0.05*

Table 4 Comparison of physical and psychological complications before and after rehabilitation program. (n=30)

Complications	Before n (%)	After n (%)	*p* value
Physical			
Decubitus	0 (0)	0 (0)	1
Ankylosis	14 (46.7)	8 (26.7)	0.031*
Pain	17 (56.7)	9 (30.0)	0.008*
Shoulder subluxation	6 (20.0)	6 (20.0)	1
Edema	3 (10.0)	1 (3.3)	0.5
Psychological			
Anxiety	26 (86.7)	2 (6.7)	<0.001*
Depression	16 (53.3)	3 (10.0)	<0.001*

** p<0.05*

Discussion

This study found that the sample group's levels of ability to perform daily routine before and after the rehabilitation program had been changed positively, and the levels of ability to perform daily activities was assessed by the modified Barthel index based on score range defined in the evaluation form. They were better in taking care of themselves, their mobility ability and excretory control as well as general routine performance. This corresponded to the study by Photong et al[9] on the rehabilitation of the disabled in the community, which comprised of three components such as management, process definition, and define results. The study indicated that the effectiveness of the integrated rehabilitation model for persons with physical disability in the community, showing a statistical significance $p<0.05$. The rehabilitation program consisted of giving knowledge and skills practice on rehabilitation to the group of patients and providing simple equipment, adjusting their habitat and the environment, giving them a handbook for rehabilitation along with constant visits and follow-up. This also agreed with the study by Petchroung et al.[15] indicating that providing continual care for patients with cerebrovascular disease in a community could be efficient with policy and resource support from the community. Studies showed that collaboration of medical personnels and communities in rehabilitation and follow-up for people with disabilities in the community made the rehabilitation continue resulting in the patient being able to perform daily living activities better.[4,16]

The quality of life was measured by the WHOQOL - BREF - THAI questionnaire. The sample group was better overall regarding physical, psychological, social relations and environment. The follow-up tests focused on complications after being disabled which can affect the patient quality of life. The physical complications after disability was assessed by the physical complication questionnaire. It was not found the evidence of decubitus among the samples both before and after the rehabilitation program. Also, the patients in the sample group have been able to help themselves at a low to moderate level they were in little risk of decubitus. As for ankylosis and pain, the sample group suffered less with a statistical significance ($p=0.031$, $p=0.008$ respectively) because the rehabilitation program used in this study had improved their relevant knowledge and skills as well as evaluated the complications along with effective rehabilitation activities, plus home and telephone visiting throughout the study period, so the sample group received constant care and rehabilitation to prevent

complications, Regular physical rehabilitation and exercise helped reduce pains and boost all the systems in the body to function more efficiently.[17] In addition to, the rehabilitation program in this study were physical therapy exercise for rehabilitation physically disabled persons such as passive stretching exercise for prevent ankylosis and muscle shortening, strengthening exercise, bed mobility training, gross motor function training, balance training, transfer and ambulation training all of these had resulted in prevention and reduction of ankylosis. Suitable types of exercise were able to strengthen the muscles and reduce injury or complications.[18] This study also provided knowledge to promote environmental adaptation to suit the condition of the disabled patients making them able to help themselves or do activities better; thus, it reduced complications related to ankylosis and pain. This corresponded to the study by Photong et al[9] which discovered that complications reduced after undergoing integrated rehabilitation for persons with physical disabilities where complications in the muscular and skeletal system as well as in the alimentary system decreased and were much different than before the rehabilitation. In the case of shoulder joint subluxation among the sample group, it was found to be insignificantly different in terms of statistics because the subluxation could have been caused by several factors such as myopathia, paratonia around the shoulder joint, shoulder joint subluxation, improper exercising or improper posture. There are several methods of rehabilitation and treatment of shoulder joint subluxation such as exercising the muscle around the shoulder joint, adjusting the body posture, electrical stimulation, using some kinds of support and tape; each method has its own benefit and limitation. For a good result, one could choose more than one method and they must be those that suit the patients the most.[19] Rehabilitation program in this study was not designed specifically for shoulder exercise. As a result, the samples with shoulder joint subluxation were no significantly. It was also found that the sample group's edema improved. The causes of edema in the sample group could be due to several factors, personal diseases or a combination of diseases, medicine side effects or irregularity in the blood circulation system, chronic inflammation, problems in the blood vessels, phoroplasts and so on.[20] In addition to regular rehabilitation programs, people with mobility impairments will be able to promote and improve physical activity, helping to improve blood circulation and reduce swelling. The samples might need some other medical treatments suitable for their diseases to reduce or limit the edema more efficiently.

As psychological complications was assessed by the Hospital Anxiety and Depression Scale (HADS) questionnaire, it was found that anxiety part and depression part were reduced significantly (p<0.001). As the rehabilitation program provided some training on relaxation and stress management and required a continual home and telephone visiting, the result of the spiritual dimension cause to hear the acceptance of the patient/family and community, clarification on suspicion from the medical personnel, encouragement, comfort, participation, freedom of expression, palliative self-esteem.[21] This situation makes the disable patient feel warm, in good spirits. In other words, they do not feel lonely. They become less depressed, more confident to meet people, and be able to better engage in the community.[15] So, disabled patients have reduced anxiety and depression score than before receiving a rehabilitation program. This went well with the study results of the personal information of the sample group for this study which was selected from patients with stroke or cerebrovascular disease for not longer than 3 years or an average duration of 19.23 months of disability (SD=12.19), which was the recovery stage of the patients. The period began from the first three months after having cerebrovascular disease when the symptoms remained stable, and the patients were able to receive rehabilitation and needed close care to reduce the severity of the disability and were likely to have a better quality of life. This corresponded with the studies by Raksaken et al[22], Clarke[23] and Muus[24] which found that the level of quality of life of the patients with cerebrovascular disease was related to the duration of the disease. The first 3-6 months could be of a low quality of life and from three months to five years the quality of life would be at a moderate level. Although cerebrovascular disease patient could be recovery by a recovery stage or an illness period, several studies reported that the cerebrovascular disease patients will be showed the disability outcome especially among patient didn't co-operated with the rehabilitation program.[4,25,26] However, the rehabilitation program for physically disabled persons, from our study could encourage the patient to do the rehabilitation program, empower family caregiver to care, and motivate the patient to continuous rehabilitation. Therefore, this program can develop the competency of rehabilitation program for physically disabled persons and could improve the quality of life in the near future. Since the rehabilitation program in this study involved giving knowledge about rehabilitation for persons with physical disability to improve the disability and promote proper environmental arrangement as well as follow-up by home and telephone visits along with individual rehabilitation with involvement of family/caregiver and the village public health volunteers in the community. This covered physical, psychological, social and environmental rehabilitation; along with proper equipment and support for individual patients, it could result in holistic rehabilitation, ensuring better performance of daily activities and a better quality of life in every dimension.[9,10,27] The follow-up and visiting the sample group showed that most of them need rehabilitation service and continual care, which means constant home and telephone visits became the key to success to increase their capability to cope more with daily activities and to prevent physical and psychological complications for a better quality of life. Since each physically disabled person had different types of daily life, housing and environment an individual visit helped us to be better informed about their problems and to be able to provide support and advice accordingly and properly in all aspects. This close and continual care boosted their morale and provided opportunities for counseling which improved their performance of routine activities and their quality of life as well as decreased complications that could

happen after the disability.[10,16]

Conclusion

The study results proved that after undergoing the rehabilitation program designed especially for the physically disabled persons, persons with physical disabilities could perform better in their daily routine and the quality of life. The physical and psychological complications as well as ankylosis and pain is prevented and reduced. It is recommended that this rehabilitation program be a guideline for rehabilitation of such groups of patients in a community to ensure continual quality rehabilitation and a better quality of life.

Recommendations

1. Evaluation and follow-up test on the rehabilitation program for persons with physical disabilities should be done in a long term.

2. Further study should be conducted with regard to exercising or the rehabilitation program to prevent complications and problems about shoulder joint dislocation among persons with physical disabilities.

3. There should be a promotion of community participation and network to provide care for rehabilitation for physically disabled persons in the community to stress continual rehabilitation suitable to the context of lifestyle of the patients and help them to receive a good quality of care.

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