

ORIGINAL ARTICLES

**INFLUENCE OF THE HOME VISIT PROGRAMME ON THE
FUNCTIONAL ABILITIES AND QUALITY OF LIFE OF PEOPLE
WITH SPINAL CORD INJURY IN THAILAND**

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ABSTRACT

Despite an increasing number of people with spinal cord injuries (SCI) in Thailand, there is very little concern regarding daily living and quality of life of these people after leaving hospital. The major purpose of this study was to investigate the influence of the home visit programme, conducted by occupational therapists, on the functional abilities and quality of life of this group. Participants were enrolled by random sampling from Maharaj, Mckaen, and Nakornping hospitals, Chiang Mai province. These subjects were divided into two groups of 30. Group one received a home visit and was experimental, while the other group was the control. Data were collected 3 times; at discharge, and at 2 and 6 months post-discharge from hospital. The instruments used were the Test of Activities of Daily Living and World Health Organisation Quality of Life Index, Thai Version. Results demonstrated that the functional abilities in the experimental group were not significantly different while in hospital and at 2 and 6 months at home. In the control group, scores of functional abilities were lower at home than in hospital. There was no significant difference in the quality of life while at home and in hospital, in both groups. All results provided evidence for developing the home visit program to maintain and enhance the functional abilities of people with SCI, after leaving hospital. It would lead to fewer burdens on family members and society.

INTRODUCTION

Health care policy and rehabilitation for people with disabilities in Thailand, focus on early discharge and shorter length of hospitalisation, due to a limitation of government budget. Many people with disabilities leave hospital before they are well enough to go home. The way of life in the community for these people, receives little attention from health care providers. The increasing number of people with spinal cord injury (SCI) in this country, is included as part of this problem (1). It is important that an appropriate mechanism and services from health professionals are put in place, to ensure a smooth transition from hospital to home (2). Inadequate therapy received in hospital and physical and attitudinal barriers that people with disabilities face at home, leads to difficulty in functional performance and poor quality of life.

Rehabilitation professionals have important roles to play in a smooth transition from hospitals to home, especially for people with SCI, who suffer permanent disabilities. It is crucial to enhance not only their independent lives at home, but also instill a positive attitude among family members and relatives toward disability. Therapists can suggest self-care techniques and general health care strategies to prevent complications and promote a good quality of life (QOL).

Occupational therapists form one of the rehabilitation teams, who encourage people with SCI to use their maximum potential in their daily lives, suggest home and environmental modification, and provide information regarding disability, to relatives and neighbours. Home visits would be an opportunity for health professionals to launch all techniques in the real environment, where the clients live.

METHODS

This study was a field experimental research, which aimed to investigate functional abilities and QOL of people with SCI after leaving hospital.

Participants

Sixty participants were enrolled by random sampling from people with SCI, at three major hospitals in Chiang Mai province, Thailand, from November 2004 to May 2005. These

participants were divided equally into two groups of 30. Group one was an experimental group who received the home visit programme, and the other group was the control, who did not receive a home visit.

The inclusion criteria were:

1. Traumatic SCI with complete cord lesion.
2. Male, age range from 15 to 60 years.
3. First admission to rehabilitation.
4. Willing to participate in the study.

Instruments

1. **Functional Ability Assessment Form.** This test was developed by Chinchai, Chinchai, and Bunyamark (3), who worked at the Department of Occupational Therapy, Chiang Mai University, Thailand. The reliability of the instrument as tested by Cronbach's alpha coefficient was .96. Functional abilities were assessed in six areas; bed mobility, self-care, bowel and bladder control, transferring, locomotion and communication. There were 7 levels of measurement. Scores ranged from 1, which represented dependence, to 7, which meant total independence. Possible scores of this instrument were 17-119.
2. **World Health Organisation Quality of Life Brief Test (Thai version).** This instrument was modified from the World Health Organisation Quality of Life Index by Mahatnirunkul, Tantipiwatanasakul, Poompaisanchai, Wongsuwan, and Pornmanarungsan (4). The questionnaire comprised of four aspects of quality of life: 1) physical domain, which focused on the perception of physical condition that affected daily lives; 2) psychological domain, which emphasised perception of the mind, and feelings that effected the person's performance; 3) social relationship, which referred to perception of inter and intra relations including sexual relationships; and 4) environmental domain, which meant perception of barriers from surroundings that affected the person's ability. The reliability of the instrument as tested by Cronbach's alpha coefficient was .8460 and the validity was .6515. Scores ranged from 1, which represented "not at all," to 5, which indicated "most of the time." The possible scores were 26-130. There were three levels of quality of life; poor (scores 26-60); moderate (scores 61-95); and good (scores 96-130).

Data collection

Assessment of the participants' functional abilities in their actual daily lives and an interview on quality of life was conducted three times; at discharge, and 2 and 6 months post-discharge from hospital. Data collection at discharge was performed within 48 hours prior to the client leaving the institution, while the assessment at 2 and 6 months post-discharge was done at home.

The home visit programme

The home visit was an intervention programme of the present study, which was conducted by occupational therapists within 7 days after the participants left the hospital. Only the experimental group received the home visit programme. Information provided for participants and their family members during the home visit were home and environmental modification, assistive device usage, self-care techniques, community participation, and explanation to relatives and neighbours about the abilities of persons with SCI.

Statistics

1. Descriptive statistics.
2. One Way ANOVA for the comparisons of functional abilities and quality of life at three different times; at discharge, and 2 and 6 months post-discharge.

RESULTS

Socio-demographic data of the participants are presented in Table 1, while the comparisons of functional abilities and QOL are demonstrated in Table 2 to 6, which differentiates the experimental and control group.

Data from Table 1 demonstrate that there were similar numbers of participants with tetraplegia and paraplegia in both the experimental and control group. Ages of the participants were mostly between 46 and 60 years. The majority was married and had finished elementary school, which was the same in both groups. Almost all participants were unemployed. The major cause of injury was traffic accident.

Table 1. Socio-demographic Data of Participants with SCI (N = 60)

Socio-demographic data		Numbers (percentage)	
		Experimental group (N=30)	Control group (N=30)
Disabilities	Tetraplegia	17 (56.6)	16 (53.4)
	Paraplegia	13 (43.4)	14 (46.6)
Age (year)	15-30	6 (20.0)	7 (23.4)
	31-45	8 (26.6)	11 (36.6)
	46-60	16 (53.4)	12 (40.0)
Marital status	Single	7 (23.4)	10 (33.4)
	Married	18 (60.0)	12 (40.0)
	Divorced	4 (13.4)	4 (13.4)
	Widowed	1 (3.4)	4 (13.4)
Education level	Elementary	19 (63.2)	20 (66.6)
	Secondary	6 (20.0)	6 (20.0)
	College and University	2 (6.6)	3 (10.0)
	Others	3 (10.0)	1 (3.4)
Current occupation	Unemployed	25 (83.4)	30 (100.0)
	Government official	5 (16.6)	0 (0.0)
Causes of injury	Traffic accident	15 (50.0)	17 (56.6)
	Fall from height	10 (33.4)	10 (33.4)
	Gun shot wound	4 (13.4)	2 (6.6)
	Others	1 (3.4)	1 (3.4)

Table 2. Summary of ANOVA for the Comparisons of Functional Abilities in the Experimental Group (N=30)

Source	df	Sum of squares	Mean square	F	Sig.
Between groups	2	1676.42	838.21	1.57	0.21
Within groups	87	46506.57	534.56		
Total	89	48182.99			

Data from Table 2 reveal that the value of Sig. = .21 (> .05), indicating no significant difference in functional abilities at three different times; at discharge, and 2 and 6 months post-discharge.

Table 3. Summary of ANOVA for the Comparisons of Quality of Life in the Experimental Group (N=30)

Source	df	Sum of squares	Mean square	F	Sig.
Between groups	2	98.16	49.08	0.65	0.52
Within groups	87	6532.07	75.08		
Total	89	6630.22			

Data from Table 3 reveal that the value of Sig. = .52 (> .05), indicating no significant difference in quality of life at three different times; at discharge, and 2 and 6 months post-discharge.

Table 4. Summary of ANOVA for the Comparisons of Functional Abilities in the Control Group (N=30)

Source	df	Sum of squares	Mean square	F	Sig.
Between groups	2	7802.82	3901.41	9.06	0.00
Within groups	87	37478.30	430.79		
Total	89	45281.12			

Data from Table 4 demonstrate that the value of Sig. of < .05 indicated at least one pair of functional abilities at three different times; at discharge, and 2 and 6 months post-discharge,

with a significant difference between each other. Table 5 shows the results of a post-hoc test by Least Significant Difference (LSD), which identified the difference of functional abilities in each pair.

Table 5. Comparisons of Mean Difference (LSD) in Each Pair of Functional Abilities in the Control Group (N = 30)

	At discharge (\bar{X} =73.93)	2 months post-discharge (\bar{X} =52.03)	6 months post-discharge (\bar{X} =57.47)
At discharge (\bar{X} =73.93)	-		
2 months post-discharge (\bar{X} =52.03)	21.90*	-	
6 months post-discharge (\bar{X} =57.47)	16.47*	5.43	-

*p=.05

Data from Table 5 demonstrate that the mean scores of functional abilities in this group at discharge was significantly higher than that at 2 and 6 months post-discharge, while scores at 2 and 6 months were not different.

Table 6. Summary of ANOVA for the Comparisons of Quality of life in the Control Group (N=30)

Source	df	Sum of squares	Mean square	F	Sig.
Between groups	2	164.62	82.31	1.17	0.32
Within groups	87	6109.17	70.22		
Total	89	6273.79			

Data from Table 6 reveal that the value of Sig. = .32 (> .05), indicating no significant difference in quality of life at three different times; at discharge, and 2 and 6 months post-discharge.

Functional ability

People with SCI, who received the home visit programme at the time of discharge, were able to maintain their abilities in performing activities of daily living at 2 and 6 months post-discharge. This was contrary to the control group, who did not receive a home visit and demonstrated a decline in their functional abilities from the time of discharge to 2 and 6 months post-discharge. This result indicated that home visits for people with disabilities such as SCI, provide benefits prior to or at discharge, and could enhance maintenance and perhaps promotion of their functional abilities. Home visits are an opportunity for therapists to see the real environment, where clients spend most of their lives. Physical and attitudinal barriers could be detected (5), so health professionals can provide information and suggest how people with disabilities and their relatives, modify and adapt to these obstacles (3). In an appropriate environment, clients with disabilities can apply the skills that have been practised in hospitals and use them at home safely and confidently. Encouragement and support to use assistive devices such as the universal cuff, fork and spoon holders, and over head loop etc. can also enhance the functional abilities of these people. During a home visit, health professionals can provide information to not only their clients, but also their relatives and neighbours in order to help them understand more about the performance of people with disabilities. Thai people in rural areas like to help those with disabilities, with the notion that handicapped individuals lack the ability to do things for themselves (6). Therapists suggest that family members and neighbours encourage people with disabilities to carry out activities on their own.

In contrast, persons with SCI in the control group did not receive a home visit from therapists, and their functional abilities decreased from discharge to 2 and 6 months post-discharge. This confirmed the benefit of the home visit programme, conducted by health professionals.

Quality of life

Quality of life was no different between the experimental and control groups at discharge and at 2 and 6 months post-discharge. This might be because QOL involves not only the routine lives of people with disabilities, but also several external factors such as the physical

and social environment, and employment status etc. Both the experimental and control group faced the same problem whether they were in hospital or at home. One of the physical barriers in Thailand is public transportation, as it does not provide special facilities for people with disabilities. Therefore, most disabled people find it difficult to commute anywhere. In addition, the architectural structure of buildings in public places such as markets, police stations, department stores, streets, or even some hospitals are not designed to suit the needs of people with disabilities, especially those who use wheelchairs. Unemployment is also a big problem for these people, as it affects their QOL. Almost all of them lost or could not perform their previous jobs due to physical and mental limitations, for example, muscle weakness, limited joint range of motion, loss of sensation, depression, poor motivation etc. Another issue, is limited understanding in the sexual relationships of people with SCI and their spouses. A majority of them reported low satisfaction with their sexual abilities. This study was conducted in persons with traumatic SCI, with complete cord lesion; therefore, the pathology at the cord nerve roots affected their sexual performance. However, most people, not only clients but also therapists, were embarrassed to talk about sex in relation to disabled persons. There was no explanation given on this issue to clients with disabilities. It would be of great advantage if health professionals in this country pay more attention in this area, and provide appropriate information which will enhance the quality of life for people with SCI and other disabilities.

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