

The Effects of Physical & Mental Health Rehabilitation Program (PMHRP) for Hemophilic arthritis patients

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Objectives:

Most of the rehabilitation program for patients with hemophilic arthritis are focused on only the improvement of physical activities. However, the actual hemophilic arthritis patients are accompanied by mental problems as well as physical disabilities, so a rehabilitation program to improve physical and mental problems simultaneously is needed. PMHRP was developed to solve these problems through increasing the interpersonal relationship, developing each potentials, self-development and understanding others. PMHRP was analysed by two different groups to verify the clinical effectiveness.

Methods:

This study used a nonequivalent control group quasi-experimental research based on data acquired through a pre-post test. The subjects for this study were a total of 53 patients with hemophilic arthritis who underwent lower extremity joint surgeries at the Hemophilic Surgery Center in Kyung Hee University Hospital at Gangdong, Seoul, Korea. The subjects were divided into 24 in experimental group and 29 in control group. The PMHRP was consisted with Mindfulness program through Latency training and walking exercise of Tai-Chi movements for 5 times(4hours/time) for 4 weeks. The measurement tools of this study were Numerical Rating Scale for 100mm Pain VAS, 100mm Fatigue VAS, WOMAC scale and self efficacy & self esteem, quality of life, SCL-90-R(Symptom Checklist-90-Revision). The data was analyzed with X²-test and t-test using SPSS/Win18.0.

(Table 1) Comparison of Dependent Variables (Quality of life) between Experimental and Control groups

Quality of life	Exp.(n=24)			Con.(n=29)			t	P
	Pre	Post	Diff (Post-Pre)	Pre	Post	Diff (Post-Pre)		
Psychoaffect	7.64±1.69	7.51±1.66	-.13±1.41	7.34±1.93	4.78±1.76	-2.46±1.29	-6.133	.000***
Self expression	6.84±2.07	6.43±1.97	-.40±1.66	6.49±2.11	4.33±1.49	-2.15±1.11	-4.289	.000***
Emotion Control	7.45±1.73	6.92±2.10	-.53±1.74	7.05±1.91	4.73±1.77	-2.32±.55	-4.785	.000***
Comm. skill	7.55±1.82	6.79±2.63	-.75±2.46	6.72±2.48	8.10±1.67	1.37±1.09	3.877	.000***
Interp. skill	7.96±2.00	6.96±2.73	-1.00±2.42	7.20±2.06	8.10±1.53	.89±.85	3.599	.001**
Coping skill	7.49±2.18	6.95±2.56	-.53±2.57	7.09±1.79	8.32±1.10	1.23±.94	3.154	.003*

※ All numerical data are Mean ± SD

*p<.003, **p<.001, *** p<.001

(Table 2) Comparison of Dependent Variables (Self-esteem, Self-efficacy) between Experimental and Control groups

Characteristics	Exp.(n=24)			Con.(n=29)			t	P
	Pre	Post	Diff(Post-Pre)	Pre	Post	Diff(Post-Pre)		
Self-esteem	29.77 ± 4.86	28.00 ± 5.68	1.33 ± 3.56	29.83 ± 5.47	25.48 ± 5.37	-4.34 ± 2.79	6.508	<.001
Self-efficacy	1099.62 ± 172.60	1003.83 ± 190.92	-29.58 ± 130.27	1090.34 ± 168.26	939.76 ± 133.20	-150.59 ± 75.78	4.218	<.001

※ All numerical data are Mean ± SD

p<.001

(Table 3) Comparison of Dependent Variables (SCL-90-R) between Experimental and Control groups

SCL-90-R	Exp.(n=24)			Con.(n=29)			t	P
	Pre	Post	Diff (Post-Pre)	Pre	Post	Diff (Post-Pre)		
Somatization	.55±.36	.50±.47	-.04±.42	.61±.52	2.85±.45	2.24±.56	15.882	.000
Obsessive-Compulsive	.90±.64	.86±.62	-.04±.59	1.00±.58	2.70±.32	1.69±.59	10.053	.000
Interpersonal-Sensitive	.81±.69	.75±.64	-.06±.58	.72±.56	2.44±.28	1.72±.47	11.669	.000
Depression	.67±.63	.62±.63	-.05±.65	.67±.54	2.43±.37	1.75±.40	11.576	.000
Anxiety	.61±.63	.48±.59	-.12±.57	.55±.50	2.40±.33	1.85±.47	13.048	.000
Hostility	.57±.55	.50±.65	-.06±.46	.47±.44	2.39±.34	1.92±.40	15.760	.000
Phobic Anxiety	.38±.61	.42±.53	.03±.58	.32±.36	2.48±.33	2.16±.44	14.184	.000
Paranoid Ideation	.87±1.53	.45±.56	-.41±1.59	.52±.39	2.40±.32	1.88±.38	6.893	.000
Psychotic symp.	.55±.52	.47±.57	-.07±.57	.51±.45	2.31±.37	1.79±.40	13.065	.000

※ All numerical data are Mean ± SD

p<.000

(Table 4) Comparison of Dependent Variables (Pain VAS, Fatigue VAS) between Experimental and Control groups

VAS	Exp.(n=24)			Con.(n=29)			t	P
	Pre	Post	Diff (Post-Pre)	Pre	Post	Diff (Post-Pre)		
Pain(mm)	28.54±22.18	21.25±16.63	-7.29±6.59	39.95±24.28	38.25±17.86	-1.70±22.41	-1.171	.001
Fatigue(mm)	35.41±24.35	26.87±20.09	-8.54±6.67	40.75±22.40	41.54±23.19	.79±25.02	-1.765	.001

(Table 5) Comparison of Dependent Variables(WOMAC) between Experimental and Control groups

WOMAC	Exp.(n=24)			Con.(n=29)			t	P
	Pre	Post	Diff (Post-Pre)	Pre	Post	Diff (Post-Pre)		
Pain	6.79 ± 6.88	5.25 ± 3.47	-1.54 ± 5.68	4.69 ± 3.77	3.21 ± 2.77	-1.48 ± 1.40	-0.050	.961
Stiffness	3.58 ± 1.59	3.29 ± 1.46	-0.29 ± 1.33	2.34 ± 1.45	1.66 ± 1.26	-0.69 ± 0.71	1.314	.198
Physical functioning	35.30 ± 16.41	32.04 ± 17.22	-3.00 ± 13.75	23.17 ± 16.41	23.17 ± 16.41	-6.66 ± 4.52	1.228	<.001

※ All numerical data are Mean ± SD

Results:

- quality of life scores improved significantly in the study group (p<.001) (Table 1).
- After PMHRP application, self esteem and self efficacy score increased significantly in the experimental group (p<.001) (Table 2).
- SCL-90-R scores decreased significantly after the program (p<.000) (Table 3).
- 100mm Pain VAS & 100mm Fatigue scores improved significantly in the study group (p<.001) (Table 4).
- Although there were no statistically significant differences in WOMAC scores between two groups, however, the average score was changed from pre-treatments(M=36.51) to post-treatment(M=30.08) and it revealed the alleviation of arthritic symptoms and improvement of activities. (Table 5).

Conclusions:

In conclusion, PMHRP showed much more satisfactory results than the simple physical therapy to treat the physical and mental disabilities including psychosocial stresses in patients with hemophilic arthritis by increasing the self esteem and quality of life by themselves. These results suggest that PMHRP is highly recommended as a distinguished method of rehabilitation for patients with hemophilic arthritis patients who need surgical interventions.

Key Words : health education, rehabilitation, hemophilic arthritis

