Comparison of the Effects of Mental and Physiological Intervention Measurement for Cancer Survivors

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Introduction

Cancer-related fatigue (CRF) is the most concerning symptom of cancer survivors, widely affecting patients’ physical, emotional, and cognitive functions, with prevalence rates of up to 75-99%. Stress management, cognitive behavior modification, relaxation, meditation, and mindfulness can help improve the patient's self-management ability to relieve the symptoms of fatigue, anxiety, and depression, thereby improving their social relationships, sleep quality and QOL.

Objective

The purpose of this study was to investigate the physical and psychological effects of stress management and Qigong for cancer survivors by evaluating their effectiveness at reducing physical and psychological stress and the effects of CRF.

Methods

Participants were randomly assigned to the stress management group (SMG) or the Qigong group (QG) according to the screening criteria. Improvements in CRF, QOL, and heart rate variability (HRV) were evaluated before and after 12 weeks intervention also at a three-month follow-up.

Results

Thirty-four participants completed SMG (n=17) or QG (n=17) intervention. The results of the SM and Qigong intervention measures showed that SM effectively reduced CRF after 12 weeks of intervention and up to 3 months later. The significant effect of Qigong was only found at the 3-month follow-up. The comparison of the levels of effectiveness of the SMG and QG interventions showed a significant difference in LF/HF only after three months of follow-up.

Conclusions

Comparison of the effects of the SMG and QG showed an average growth rate of the SMG was larger than that of the QG, and the growing range was synchronous with a consistent growth trend.

Table 3. The paired sample t-test and assumption of homogeneity of variance for SM and QG groups

Outcome variables	SM (n=25)				QG (n=27)				Levene's test for equality of variances	
	Mean	SD	t	p value	Mean	SD	t	p value	F	p value
CRF	Base	2.704	0.541		2.540	0.630			0.364	0.549
	Post	2.476	0.520		2.307	0.707				
	Diff	0.228	0.514	2.216*	0.036	0.233	0.512	2.367*		
	Base	2.704	0.541		2.540	0.630				
	F/U	2.492	0.540		2.277	0.638				
QOL	Diff	0.212	0.506	2.095*	0.047	0.262	0.537	2.540*	1.610	0.210
	Base	3.872	0.547		3.971	0.639				
	Post	3.963	0.555		4.195	0.549				
	Diff	-0.090	0.386	-1.173	0.252	-0.223	0.519	-2.235*		
	Base	3.872	0.547		3.971	0.639				
SDNN	F/U	3.950	0.554		4.039	0.542			2.323	0.134
	Diff	-0.078	0.370	-1.057	0.301	-0.068	0.642	-0.553		
	Base	24.890	6.500		25.641	9.435				
	Post	33.281	8.357		31.426	13.706				
	Diff	-8.390	5.274	-7.954***	<0.001	-5.785	5.512	-3.453***		
TP	Diff	24.890	6.500		25.641	9.435			0.850	0.361
	F/U	27.260	10.760		26.495	12.492				
	Diff	-2.369	11.085	-1.069	0.296	-0.854	7.648	-0.581		
	Base	364.285	205.168		378.805	285.033				
	Post	619.744	314.038		599.564	575.765				
	Diff	-255.459	259.103	-4.930***	<0.001	-220.759	322.138	-3.561**	0.440	0.668
	Base	364.285	205.168		378.805	285.033				
	F/U	419.440	322.160		415.592	376.023				
	Diff	-55.154	369.998	-0.745	0.463	-36.787	243.668	-0.784		