

The effectiveness of supportive nursing care in sleep quality of patients with heart failure

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Background

Sleep disturbance is one of the most common complaints in heart failure patients. Up to 74% heart failure patients reported poor sleep. However, research related to sleep disturbance of heart failure patients is limited in Taiwan.

Purpose

This study aims to explore the effects of a supportive care program in sleep quality of heart failure patients.

Methods

An experimental, longitudinal research design was used. Eighty-four patients with heart failure were randomly assigned to the intervention group ($n = 43$) or the control group ($n = 41$). Patients in the intervention group received a 12-week supportive care program including education on sleep hygiene, coaching self-care, emotional support and home visit monthly. The control group received regular nursing care.

Data were collected at 4 time points: baseline, 4th week, 8th week, and 12th week after intervention. Instruments included Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, Symptom Distress Scale, Hospital Anxiety and Depression Scale and Social Support Scale. Data analysis included descriptive statistics, independent t-test, chi-square, repeated measures ANOVA, and generalized estimating equation (GEE).

Results

1. The intervention group had significant improvement on level of sleep quality and sleepiness after 12 weeks of supportive nursing care program, while those in the control group showed no significant differences.
2. Anxiety and depression scores were increased significantly in the control group at 12th week ($p < .001$). However, the intervention group remained unchanged in anxiety and depression scores after 12 weeks of supportive nursing care program ($p > .05$).
3. Compared with the control group, the intervention group had significantly better improvement on sleep quality ($\beta = -2.22$, $p < .001$), sleepiness ($\beta = -4.23$, $p < .001$), anxiety ($\beta = -1.94$, $p = .001$), depression ($\beta = -3.05$, $p < .001$), and symptom distress ($\beta = -9.49$, $p < .001$) after 12 weeks intervention.

Conclusion

This study confirmed that the supportive nursing care program could effectively improve sleep quality and psychological distress in patients with heart failure. We suggested that this supportive nursing care program could be applied to clinical practice of cardiovascular nursing.

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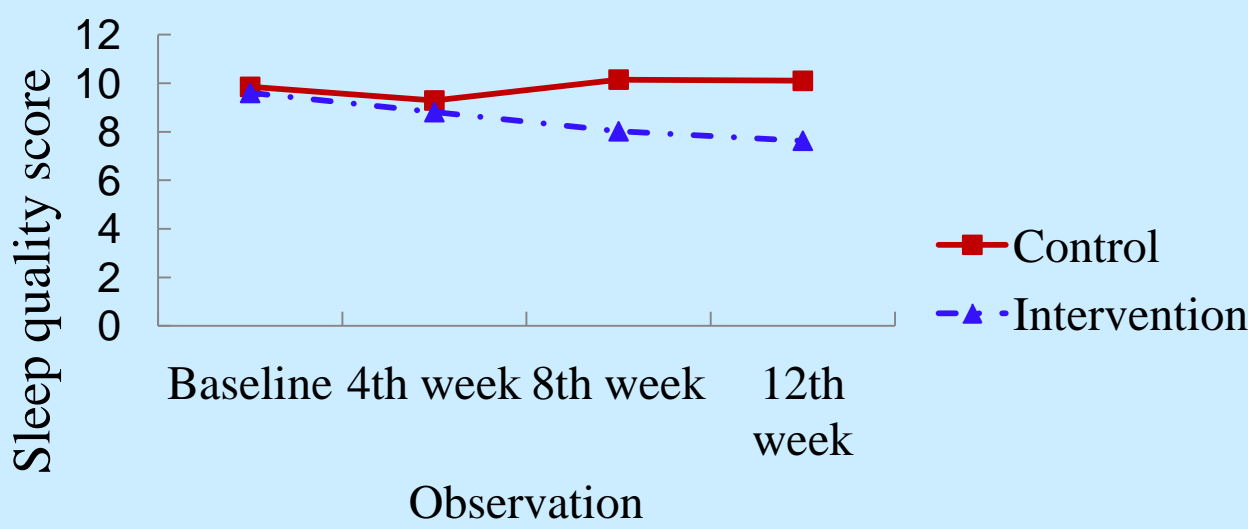


Fig.1. The level of sleep quality over time for 12 weeks after supportive nursing care intervention

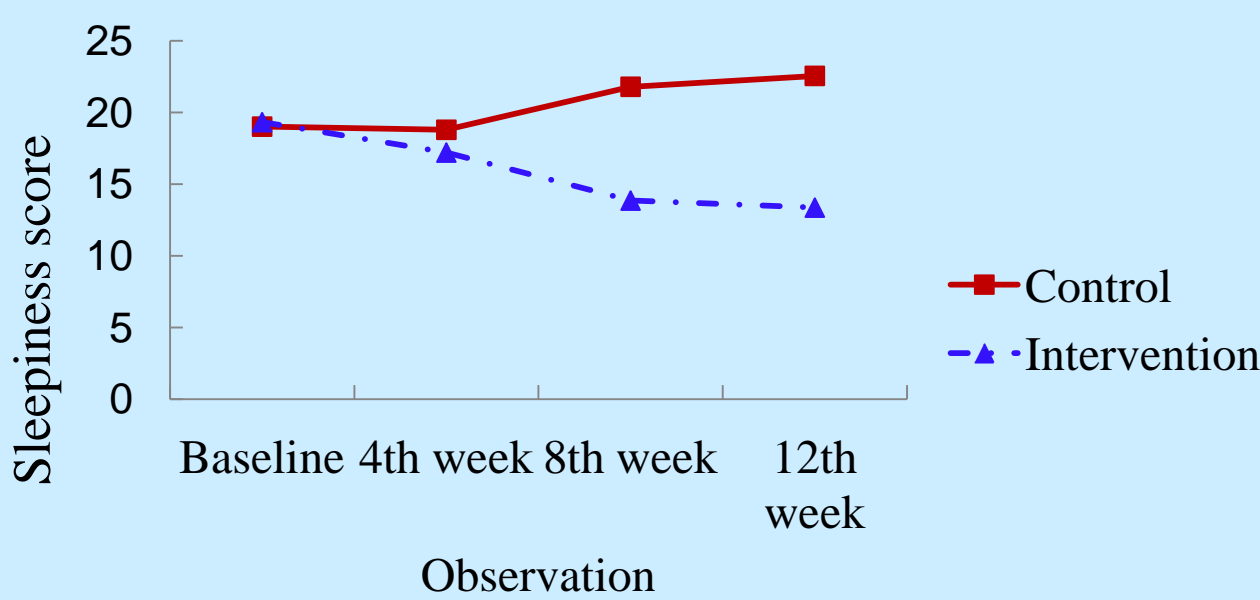


Fig.2. The level of sleepiness over time for 12 weeks after supportive nursing care intervention

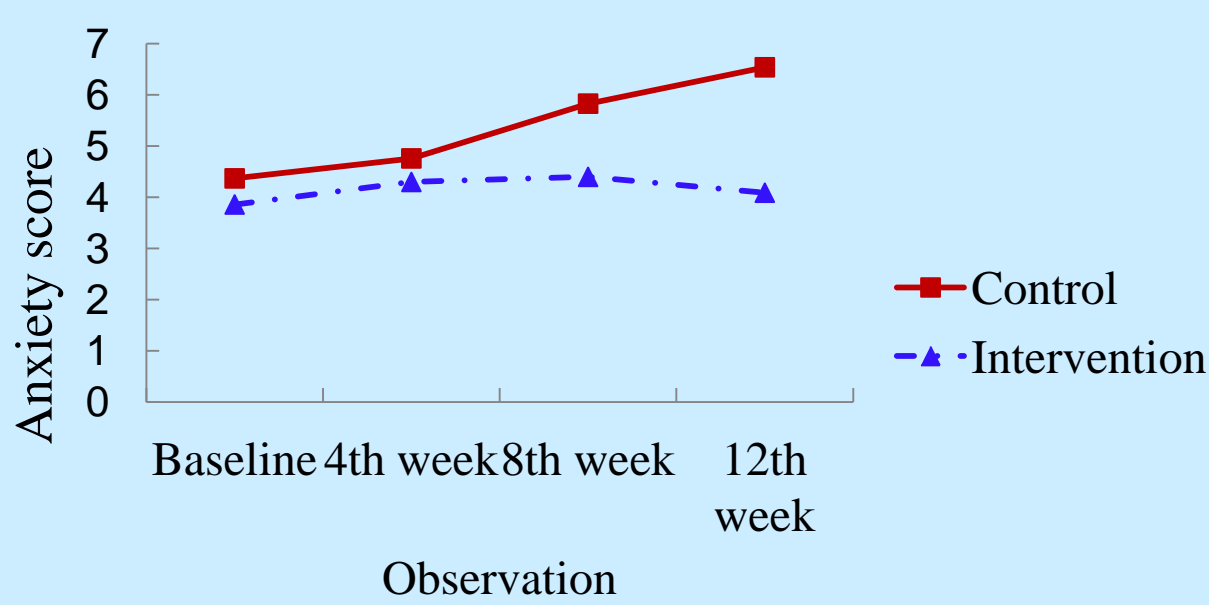


Fig.3. The level of anxiety over time for 12 weeks after supportive nursing care intervention

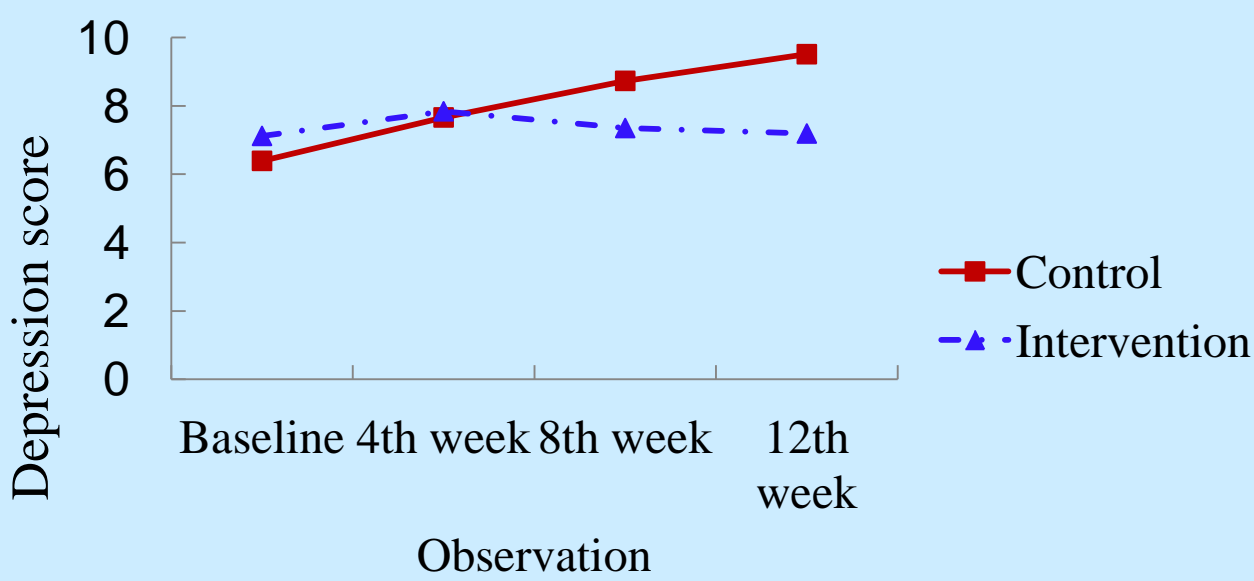


Fig.4. The level of depression over time for 12 weeks after supportive nursing care intervention

Table 1 Interaction between time and groups by GEE analysis ($N = 84$)

Variables				
Time × group	β	SE	95% CI	p
Sleep quality				
Baseline	Reference			
4 th week	-0.23	0.62	-1.44, 0.98	.709
8 th week	-1.87	0.62	-3.08, -0.67	.002
12 th week	-2.22	0.62	-3.43, -1.01	<.001
Sleepiness				
Baseline	Reference			
4 th week	-1.73	0.82	-3.35, -0.12	.036
8 th week	-4.20	0.82	-5.82, -2.59	<.001
12 th week	-4.23	0.82	-5.84, -2.61	<.001
Anxiety				
Baseline	Reference			
4 th week	-0.05	0.58	-1.08, 1.18	.929
8 th week	-0.93	0.58	-2.06, 0.20	.108
12 th week	-1.94	0.58	-3.07, -0.81	.001
Depression				
Baseline	Reference			
4 th week	-0.55	0.73	-1.97, 0.88	.451
8 th week	-2.11	0.73	-3.53, -0.69	.004
12 th week	-3.05	0.73	-4.48, -1.63	<.001
Symptom distress				
Baseline	Reference			
4 th week	-1.90	1.84	-5.50, 1.70	.302
8 th week	-8.25	1.84	-11.85, -4.64	<.001
12 th week	-9.49	1.84	-13.09, -5.89	<.001