ISSN 2616-5791 Vol. 7, Issue 1: 11-17, DOI: 10.25236/AJMHS.2026.070102

Effect of Naikan Cognitive Therapy on the Physical and Mental Health of Psychiatric Staffs

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Abstract: *To evaluate the efficacy of Naikan cognitive therapy in improving the physical and mental health of psychiatric staffs. 100 psychiatric staffs from a psychiatric hospital in Suzhou were enrolled between May 2023 and April 2024 and randomly divided into observation group and control group. In observation group, the participants received NCT while the participants in control group were given standard psychological guidance. Pre- and post-intervention, HAMA, HAMD, PSQI and SCL-90 were administered to all subjects. There were no significant differences between two groups in general characteristics and all assessment scores before the intervention. A significant difference occurred in HAMA score in observation group (t=59.387, P<0.05). In the post-intervention, HAMA score was significantly lower in observation group than in control group(t=-19.617, P<0.05). Similarly, A significant decrease occurred in HAMD score in observation group (t=74.851, P<0.05). In the post-intervention, HAMD score was significantly lower in observation group than in control group (t=-17.220, P<0.05). A significant decrease occurred in PSQI score in observation group (t=19.708, P<0.05). In the post-intervention, PSQI score was significantly lower in observation group than in control group(t=-6.153, P<0.05). In the post-intervention, the SCL-90 total score and the subscale scores for somatization, obsession, interpersonal relationships, depression, anxiety, and hostility were significantly lower in observation group than in control group(t=-30.704, -27.103, -20.068, -15.045, -20.431, -14.331, -18.225, P<0.05). NCT can improve psychiatric staffs' psychosomatic symptoms remarkably. It can significantly reduce the levels of anxiety and depression, and enhance sleep quality. It can play a positive role in maintaining and promoting the physical and mental health of them.*

Keywords: *Psychiatric staff, Naikan cognitive therapy, Psychosomatic symptoms*

1. Introduction

The service targets of psychiatric work are primarily individuals with mental disorders and psychological disorders. Due to the specificity of the work objects, the complexity of the work environment, heavy workload, relatively low remuneration, low social status, as well as the influence of personal health status and life events, psychiatric medical staff often experience psychological problems such as anxiety, depression, irritability, anger, sleep disorders, and physical discomfort. Studies by Rong Zichen [1], Zhang Qingqing [2], and others have shown that the mental health status of psychiatric medical staff is relatively poor. According to data from the Journal of the American Medical Association (JAMA), about 30% of psychiatric medical staff experience psychological disorders at certain periods, which is 2-3 times higher than the general population. Common psychological problems among psychiatric medical staff include: obsession, hostility, somatization, depression, and interpersonal sensitivity [3]. In recent years, mental health issues among psychiatric medical staff, such as insomnia, stress, and low mood, may have further intensified [4]. Psychiatric medical staff commonly experienced anxiety, depression, insomnia, and other psychological problems during public health emergencies [5]. As their tenure increases, some medical staff may also experience emotional exhaustion and job burnout, which directly affects the high-quality development of mental health work. However, medical staff in psychiatric hospitals undertake special medical tasks, and the nature of their work determines that they need to possess a higher level of mental health [6]. Therefore, establishing a sound mental health support system is constructive for alleviating the mental health problems of psychiatric medical staff and optimizing their psychological state.

Naikan cognitive therapy (NCT) is a psychological therapy that integrates Naikan therapy [7], which originates from Eastern culture, with Beck's cognitive therapy [8], which originates from Western culture.

ISSN 2616-5791 Vol. 7, Issue 1: 11-17, DOI: 10.25236/AJMHS.2026.070102

It involves recalling life events from one's growth process according to the three themes of Naikan, observing and feeling important interpersonal relationships from multiple perspectives, re-experiencing emotional experiences such as satisfaction, gratitude, and guilt, shaking and changing the entrenched self-centered consciousness, detecting and correcting irrational cognitions, so that the subjective and objective tend to be harmonious [9]. It is a recently promoted psychological therapy [10]. After long-term application and exploration, Naikan cognitive therapy has shown significant efficacy for various mental disorders and psychological problems [11] and is mainly applicable to mental health education [9]. However, there are no relevant application reports in China targeting the group of psychiatric medical staff. This study, with a preventive goal, aims to explore the impact of Naikan cognitive therapy on the physical and mental health of psychiatric medical staff, contributing to the exploration of effective interventions to enhance their mental health.

2. Objects and Methods

2.1 Objects

100 psychiatric medical staff from a psychiatric hospital in Suzhou were selected as research subjects between May 2024 and April 2025. Inclusion criteria: (1) Voluntary participation and signing of informed consent; (2) Work experience of more than 1 year. Exclusion criteria: (1) Medical staff on advanced studies or internships; (2) Medical staff who did not follow the intervention method of this project; (3) Medical staff receiving other psychological therapies. This study strictly adhered to ethical settings, followed the principle of voluntariness, and all subjects signed informed consent forms before enrollment, approved by the hospital ethics committee. They were divided into an observation group and a control group using a random number table, with 50 cases in each group. Ultimately, 100 cases were included in the analysis, with no dropouts. The study showed in table 1 that there were no significant differences between the two groups in terms of gender, age, education level, occupation, marital status, and work years.

Table 1 Comparison of General Information between the Two Groups of Medical Staff

Variable	Category	Observation Group (n=50)	Control Group (n=50)	t/χ^2	P
Gender (n)	Male	10	11	0.035	>0.05
	Female	40	39		
Age (years, $\bar{x}\pm s$)		27.53±2.46	27.61±2.52	-0.536	>0.05
Education (n)	College	11	10	0.032	>0.05
	Bachelor's or above	39	40		
Occupation (n)	Doctor	12	11	1.439	>0.05
	Nurse	38	39		
Marital Status (n)	Unmarried	9	8	3.274	>0.05
	Married	40	41		
	Other	1	1		
Work Years (years, $\bar{x}\pm s$)		8.32±1.01	8.42±1.11	-0.761	>0.05

2.2 Methods

2.2.1 Intervention for the Observation Group with Naikan Cognitive Therapy

The intervention was conducted by psychiatrists who had received unified training in Naikan cognitive therapy, with each instructor guiding 5 to 6 subjects. A semi-centralized intervention model was adopted, totaling 43 hours over 7 days. Specifically, on Saturday and Sunday, they concentrated for 9 hours each day (excluding lunch and dinner times) in a designated location for centralized Naikan. From Monday to Friday, they concentrated for 2 hours at noon each day in a designated location, and from 18:00 to 21:00 in the evening, they practiced dispersed Naikan for 3 hours. The centralized Naikan location was the hospital meeting room, which was quiet and at a suitable temperature. Subjects were separated by partitions. The specific intervention was as follows: In a unified environment, subjects carefully recalled specific past events each day and experienced emotions. This included: each recall

ISSN 2616-5791 Vol. 7, Issue 1: 11-17, DOI: 10.25236/AJMHS.2026.070102

interval covering every 3-5 years; the objects of Naikan ranged from the closest person, the next closest, the third closest, to the less disliked, and the most disliked person. The three Naikan themes were "what the other person has done for me," "what I have done for the other person," and "the troubles I have caused the other person." Every 1-1.5 hours, subjects reported Naikan events and related questions to the instructor. After understanding, the instructor provided guidance on psychological resistance and other issues that arose during the intervention process to ensure smooth progress. Finally, Beck's cognitive therapy intervention was conducted for the subjects, involving the identification and correction of irrational cognitions, including: identifying automatic thoughts, reality testing, and identifying and correcting irrational cognitions. The Naikan cognitive therapy guidance manual was used, and the intervention process was recorded.

2.2.2 Intervention for the Control Group

The control group received standard psychological guidance and mental health education for the same duration during the same period, also conducted by psychiatrists who had received unified Naikan cognitive therapy training, with each instructor guiding 5 to 6 subjects. This included venting, counseling, and reading mental health-related books. (1) Venting: The instructor learned about the emotional status of the medical staff through conversation, encouraged them to talk about problems and pressures encountered at work, and guided them to express their emotions and release stress. (2) Counseling: Actively communicated with the medical staff, provided comfort and encouragement, and offered counseling when necessary. (3) The medical staff read mental health-related books, and the instructor checked their reading situation. The intervention location and environmental requirements for the control group were the same as those for the observation group.

2.2.3 Observation Indicators

Psychological assessments were conducted for both groups of subjects once before and after the intervention to evaluate the anxiety, depression, sleep, and other mental health status of the psychiatric medical staff. The research tools included the Hamilton Anxiety Rating Scale (HAMA), Hamilton Depression Rating Scale (HAMD-17), Pittsburgh Sleep Quality Index (PSQI), and Symptom Checklist-90 (SCL-90). ① HAMA Scale: 14 items in total, each item scored 0-4, a total score >14 indicates definite presence of anxiety. ② HAMD-17: Contains 17 items, a total score ≤7 is normal, 8-17 suggests possible mild depression, 18-24 suggests possible moderate depression, ≥25 suggests possible severe depression. ③ PSQI: Includes dimensions of sleep duration, sleep efficiency, sleep disturbances, and sleep quality, scored on a 0-3 scale, total score 21, higher scores indicate poorer sleep quality. ④ SCL-90: Includes 90 items, and 10 factors including somatization, obsession, interpersonal sensitivity, etc. Scored on a 5-point scale (1-5), higher scores indicate more severe corresponding psychiatric symptoms.

2.2.4 Statistical Methods

SPSS 24.0 software was used for statistical analysis. Measurement data conformed to a normal distribution and are expressed as ($\bar{x}\pm s$). Inter-group comparisons were conducted using independent samples t-tests, and count data comparisons between groups were conducted using chi-square tests. Independent samples t-tests were used for comparisons between the two groups before and after the intervention, and paired samples t-tests were used for within-group comparisons before and after the intervention. A P-value < 0.05 was considered statistically significant.

3. Results

3.1 Comparison of HAMA Scores between the Two Groups before and after Intervention

Table 2 Comparison of HAMA Scores between the Two Groups Before and After Intervention ($\bar{x}\pm s$, points)

Group	n	Pre-intervention	Post-intervention
Observation Group	50	19.30±1.15	5.60±0.86
Control Group	50	18.80±1.13	11.50±1.41
t	1.275	-19.617*, 59.387①, 25.323②	
P	0.118	0.005*, 0.001①, 0.004②	

Note: "①" indicates comparison within the observation group before and after intervention, P<0.05; "②" indicates comparison within the control group before and after intervention, P<0.05; "*" indicates comparison between the two groups after intervention, P<0.05. The same applies below.

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The study showed in table 2 that there was no significant difference in HAMA scores between the two groups before the intervention (P>0.05). The HAMA scores after intervention were lower than before the intervention in both groups (t=59.387, 25.323, P<0.05). Meanwhile, the score of the observation group was significantly lower than that of the control group (t=19.617, P<0.05).

3.2 Comparison of HAMD Scores between the Two Groups before and after Intervention

Table 3 Comparison of HAMD Scores between the Two Groups before and after Intervention ($\bar{x}$±s, points)

Group	n	Pre-intervention	Post-intervention
Observation Group	50	20.10±1.09	5.27±0.91
Control Group	50	19.60±1.57	10.47±1.38
t	1.317	-17.220*, 74.851①, 33.816②	
P	0.223	0.005*, 0.002①, 0.003②	

The study showed in table 3 that there was no statistically significant difference in HAMD scores between the two groups before the intervention (P>0.05). The HAMD scores after intervention were lower than before the intervention in both groups (t=74.851, 33.816, P<0.05). Meanwhile, the score of the observation group was significantly lower than that of the control group (t=17.220, P<0.05).

3.3 Comparison of PSQI Scores between the Two Groups before and after Intervention

Table 4 Comparison of PSQI Scores between the Two Groups Before and After Intervention ($\bar{x}$±s, points)

Group	n	Pre-intervention	Post-intervention
Observation Group	50	9.03±0.76	4.03±1.43
Control Group	50	8.83±1.37	6.03±1.07
t	1.231	-6.153*, 19.708①, 15.389②	
P	0.263	0.004*, 0.002①, 0.003②	

The study showed in table 4 that there was no statistically significant difference in PSQI scores between the two groups before the intervention (P>0.05). The PSQI scores after intervention were lower than before the intervention in both groups (t=19.708, 15.389, P<0.05). Meanwhile, the score of the observation group was significantly lower than that of the control group (t=6.153, P<0.05).

3.4 Comparison of SCL-90 Total Scores between the Two Groups before and after Intervention

Table 5 Comparison of SCL-90 Total Scores between the Two Groups before and after Intervention ($\bar{x}$±s, points)

Group	n	Pre-intervention	Post-intervention
Observation Group	50	178.77±2.28	120.13±3.95
Control Group	50	180.00±3.49	147.37±2.82
t	2.561	-30.704*, 83.307①, 35.031②	
P	0.117	0.005*, 0.001①, 0.003②	

The study showed in table 5 that there was no significant difference in the SCL-90 total score between the two groups before the intervention (P>0.05). The SCL-90 total scores after intervention were lower than before the intervention in both groups (t=83.307, 35.031, P<0.05). Meanwhile, the observation group's score was significantly lower than that of the control group (t=30.704, P<0.05).

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3.5 Comparison of SCL-90 Scores between the Two Groups after Intervention

Table 6 Comparison of SCL-90 Scores between the Two Groups after Intervention ($\bar{x}\pm s$, points)

Group	n	Somatization	Obsession	Interpersonal Sensitivity	Depression	Anxiety	Hostility	Phobic Anxiety	Paranoid Ideation	Psychoticism	t/P values correspond to each factor compared to control
Observation	50	0.94±0.08	1.14±0.11	1.07±0.08	1.08±0.10	0.84±0.09	0.99±0.14	1.31±0.10	1.63±0.07	1.61±0.08	120.13±3.95
Control	50	1.50±0.08	1.70±0.10	1.50±0.13	1.61±0.10	1.32±0.15	1.62±0.12	1.38±0.11	1.67±0.07	1.60±0.06	147.37±2.82
t		-27.103	-20.068	-15.045	-20.431	-14.331	-18.225	-2.561	-1.942	-1.558	-30.704
P		0.006	0.007	0.008	0.007	0.009	0.009	0.051	0.069	0.125	0.005

The study showed in table 6 that after the intervention, the observation group's scores on the somatization, obsession, interpersonal sensitivity, depression, anxiety, and hostility factors were significantly lower than those of the control group, and the differences were statistically significant (t=-27.103, -20.068, -15.045, -20.431, -14.331, -18.225, all P<0.05).

4. Discussion

The results of this study show that after NCT intervention, the HAMA, HAMD, PSQI, and SCL-90 total scores, as well as the somatization, obsession, interpersonal sensitivity, depression, anxiety, and hostility factor scores of the psychiatric medical staff were significantly reduced, and were significantly lower than those of the control group. This indicates that compared to conventional psychological intervention methods, NCT is more effective in alleviating the physical and mental symptoms of psychiatric medical staff. This has not been reported domestically before. This is consistent with previous studies applying NCT to intervene in physical and mental symptoms such as anxiety, depression, and obsession. A study by Wang Yuxuan et al. using NCT to intervene in medical students confirmed that NCT can effectively reduce anxiety levels in medical students [12]. Wang Chongjian et al., studying 42 elderly patients with depression, found that NCT treatment for elderly depression could effectively reduce anxiety and depression emotions [13]. Li Yongjuan et al. used Naikan therapy combined with conventional scheme for 40 adolescent patients with refractory obsessive-compulsive disorder, showing that Naikan therapy combined with conventional scheme was more effective in alleviating obsessive-compulsive, anxiety, and depressive symptoms in adolescent patients with refractory obsessive-compulsive disorder [14].

Ma Qiaoying et al. applied NCT to 47 patients with generalized anxiety disorder, confirming that NCT can reduce anxiety symptoms and improve sleep in patients with generalized anxiety disorder [15]. Li Jing et al. conducted NCT intervention on 35 female compulsory drug abstainers, and the results proved that NCT can significantly improve the physical and mental symptoms of female compulsory drug abstainers [16]. Previous research indicated that NCT is more effective for emotional problems (75.0%) and interpersonal problems (70.3%) [17], which is also supported by this study.

The possible psychological mechanisms by which NCT alleviates the physical and mental symptoms of psychiatric medical staff are as follows: Through the first Naikan theme, "what the other person has done for me," medical staff become aware of "being given," that is, the objective fact that everything they possess is first given by others (the external world), experiencing positive emotions such as being loved, happiness, warmth, gratitude, and being moved. This enhances their ability to perceive social support, while also making their judgments of themselves and others more objective and reasonable, improving self-cognitive imbalance, alleviating interpersonal sensitivity and hostility, leading to more harmonious interpersonal relationships, and thereby reducing physical and mental symptoms. Through the second theme, "what I have done for the other person," they become aware that "giving is also joyful" and feel their personal value. By comparing and contemplating the first and second themes, the fact of receiving more and repaying less generates feelings of being loved and satisfaction from gaining, as well as the healthy sense of guilt. This makes them more likely to adopt positive coping styles when encountering difficulties, thereby alleviating their physical and mental symptoms. By contemplating the third theme, "the troubles I have caused the other person," they generate a healthy sense of shame and guilt, prompting them to correct their bad behavior. Through Naikan, medical staff become aware of their connection with others, prompting a change in their self-centered automatic thinking patterns and forming new rational cognitive patterns, making the subjective more consistent with the objective, and consequently reducing various physical and mental symptoms. This further validates the psychological mechanism of Naikan therapy proposed by Professor Li Zhentao, which is to change the self-centered

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cognitive pattern of the treated [18], as well as Professor Mao Fuqiang's proposition that Naikan practitioners reorganize their own thoughts and cognitions during Naikan [19], and that the core factor for the effectiveness of Naikan therapy is the identification and correction of irrational cognitions [20].

In summary, Naikan cognitive therapy has a short course, is simple to operate, has a positive impact on the improvement of physical and mental symptoms and the enhancement of mental health of psychiatric medical staff, is conducive to them exerting greater self-potential, better integrating into work and society, and realizing their life value. It has broad application prospects and is worthy of promotion and application in the future. The sample size of this study is relatively small, and all subjects came from the same hospital, so the sample representativeness may be insufficient. The results of the study need to be verified with larger sample sizes. Additionally, follow-up periods need to be increased to continuously track its long-term stability.

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