International Journal of Psychology & Behavior Analysis
Original Article Open Access

Effects of Cognitive Behavioral Therapy on Nurse Mentors Using a Mentoring System for Reducing their Burnout

Takashi Ohue[1,*] and Masaru Menta[2]
[1]*Department of Nursing, Faculty of Nursing, Hyogo University, Japan*
[2]*Department of Clinical Psychology, Faculty of Education, Bukkyo University, Japan*

Abstract

Background: This study aimed to implement a staff training program based on cognitive behavioral therapy (CBT) to reduce burnout for mid-career nurses (hereafter, nurse mentors) and determine the effectiveness of the program.

Methods: Participants comprised 52 nurse mentors working in an acute care hospital. The program consisted of three sessions. The first session was designed to understand stress and burnout among nurse mentors, and to determine counseling mindset and various counseling techniques. The second session attempted to acquire basic knowledge of CBT and understand interventions based on cognitive restructuring. The third session comprised a 15-minute lecture on intervention-based problem-solving techniques and psychological education that summarized the program, 75 minutes of group work. The primary outcome measure was assessed using the Knowledge Checklist of Cognitive Therapy for Nurses. The secondary outcome measures were assessed using the 20-item shortened version of the Active Listening Attitude Scale, the Communication Skills Scale, the Multidimensional Empathy Scale, and the Maslach Burnout Inventory. Results using the above measures were compared before, immediately after, and three months after the intervention.

Results: Data of48 participants (5 male nurse mentors and 43 female nurse mentors) who responded to the questionnaire before, immediately after, and three months after the intervention were analyzed. The Friedman test was performed before, immediately after, and three months after the intervention, and knowledge of CBT, which was the primary outcome measure, significantly improved. In addition, the secondary outcome measures of burnout, "emotional exhaustion" and "depersonalization," decreased, while "sense of personal accomplishment" improved. In addition, communication skills such as "deciphering ability" and "expressivity" improved.

Conclusion: The staff training program based on CBT was effective in reducing nurse mentors' burnout. Furthermore, the program was effective in improving their communication skills.

Publication History:

Received: February 16, 2022
Accepted: February 28, 2022
Published: March 02, 2022

Keywords:

Mental health, Mentorship program, Staff training

Introduction

In December 2019, the first case of pneumonia caused by the SARS-CoV-2 was reported in Wuhan, China. Consequently, the World Health Organization (WHO) declared a public health emergency of international concern on January 30, 2020, and new pneumonia cases caused by the virus began to be reported worldwide, including Japan [1]. In Japan, 16,365 cases and 763 deaths have been reported as of May 19, 2020. The International Council of Nurses (ICN) has estimated that at least 90,000 healthcare workers worldwide have been infected with the coronavirus disease 2019 (COVID-19), and has reported that the actual figure of infected healthcare workers may have doubled amidst a continued supply shortage of infection prevention masks and other equipment in healthcare settings [2]. Under these circumstances, there have been reports on the mental health of nurses caring for COVID-19 patients worldwide [3] and in Japan [4]. In these reports, mental health symptoms such as depression, anxiety, posttraumatic stress disorder, and burnout were observed in nurses taking care of COVID-19 patients. We believe that mental health support for nurses caring for COVID-19 patients is an important and urgent issue worldwide. In a fact-finding survey on the dissemination of the "Guidelines for Night Work and Shift Work for Nurses" issued by the Japanese Nursing Association [5], of the 3,213 hospitals that responded to the survey, 63.3% were working on mental health measures, and insufficient provision of care still persists in clinical settings. As a mental health initiative for nurses, a cognitive behavioral therapy (CBT) program was developed based on a cognitive model of nurses' burnout; the results reported that group CBT reduced nurses' burnout and turnover intention [6,7]. The results of the study conducted by Ohue et al. [7] revealed the effectiveness of CBT by human therapists, suggesting that the wider dissemination of CBT could contribute to improvement of mental health of nurses. Thus, CBT with a mentoring system was considered to be effective as a mental health support system for nurses. The mentoring system includes individual support activities provided by senior nurses (hereafter, nurse mentors), who have abundant knowledge and professional experience, to junior nurses (hereafter, nurse mentees), in hospital settings. The fundamental idea was to implement a CBT program based on the cognitive model of burnout by Ohue et al. [7], through staff training for nurses mentors with five or more years of clinical experience; thus, nurse mentors trained in CBT provided CBT to nurse mentees. Thus, we considered it necessary to first examine the effectiveness of a staff training program based on CBT for reducing nurse mentors' burnout and turnover intention.

***Corresponding Author:** Dr. Takashi Ohue, Department of Nursing, Faculty of Nursing, Hyogo University, 2301 Shinzaike Hiraoka-cho, Kakogawa-shi, Hyogo 675-0101, Japan, Tel: +81-79-427-9891; E-mail: ohue@hyogo-dai.ac.jp

Citation: Ohue T, Menta M (2022) Effects of Cognitive Behavioral Therapy on Nurse Mentors Using a Mentoring System for Reducing their Burnout. Int J Psychol Behav Anal 8: 183. doi: https://doi.org/10.15344/2455-3867/2022/183

In light of the aforementioned information, this study required staff training for nurses with a mentoring system to promote the effectiveness of CBT in improving nurse mentors' mental health. The purpose of this study was to implement a staff training program based on CBT to reduce burnout of nurse mentors, and determine its effectiveness.

Material and Methods

Research participants

Participants comprised 52 nurse mentors between their fifth and fifteenth year of employment in an acute care hospital. The survey period was from April to December 2016.

Contents of the CBT program using the mentoring system

CBT using a mentoring system is an application of the theory of parent training. Parent training is a method of treatment that is widely applied to children with behavioral problems. Unlike other methods, the therapist works directly with either parent to help improve the child's functioning. The child can be supported by changing the parent's current caregiving behavior [8].We applied this theory to mental health: to improve the mental health of nurse mentees, we worked directly with nurse mentors. The nurse mentees could be supported by transforming the nurse mentors' cognition. The therapeutic structure is two-fold, and comprises a mediated treatment method. The idea was for the therapists to provide CBT to the nurse mentors. Following this, the nurse mentors provided CBT to the nurse mentees (Figure 1).

The program consisted of three sessions, each of which lasted 90 minutes, with 15 minutes for psychoeducation and 75 minutes for group work. The specific contents are described in Table 1. Session 1 consisted of an orientation for psycho-educational interventions on stress and burnout among nurses and related factors, counseling mindset, and counseling techniques; and group work on perceived stress in performing current duties and listening and empathic understanding. In addition, self-monitoring of stress scenes was given for one week at homework. Session 2 comprised psycho-educational interventions including an overview of CBT, and cognitive restructuring and its relation to stress; and group work involving role-playing stressful situations and experiencing how cognitive restructuring can change one's mood by changing one's thoughts. In addition, five column methods were given for one week at homework. Finally, Session 3 consisted of psycho-educational interventions comprising problem-solving skills training and group work on problem-solving techniques.

Outcome measures

To measure the effects of CBT using the mentoring system, self-report scales were used before, immediately after, and three months after the intervention.

Primary outcome measure

CBT checklist for nurses [9]

The Knowledge Checklist of Cognitive Therapy for Nurses (KCBTN) scale was used as an indicator of the effectiveness of knowledge of CBT for nurses. The KCBTN is a 16-item questionnaire comprising questions related to human relational situations and cognition that are considered in interpersonal assistance situations. A higher number of correct answers on this scale indicates a greater knowledge of CBT.

Likert-scale rated questions on each session

To evaluate the level of understanding and satisfaction of each session, the participants were asked to answer the following questions on a 5-point Likert scale.

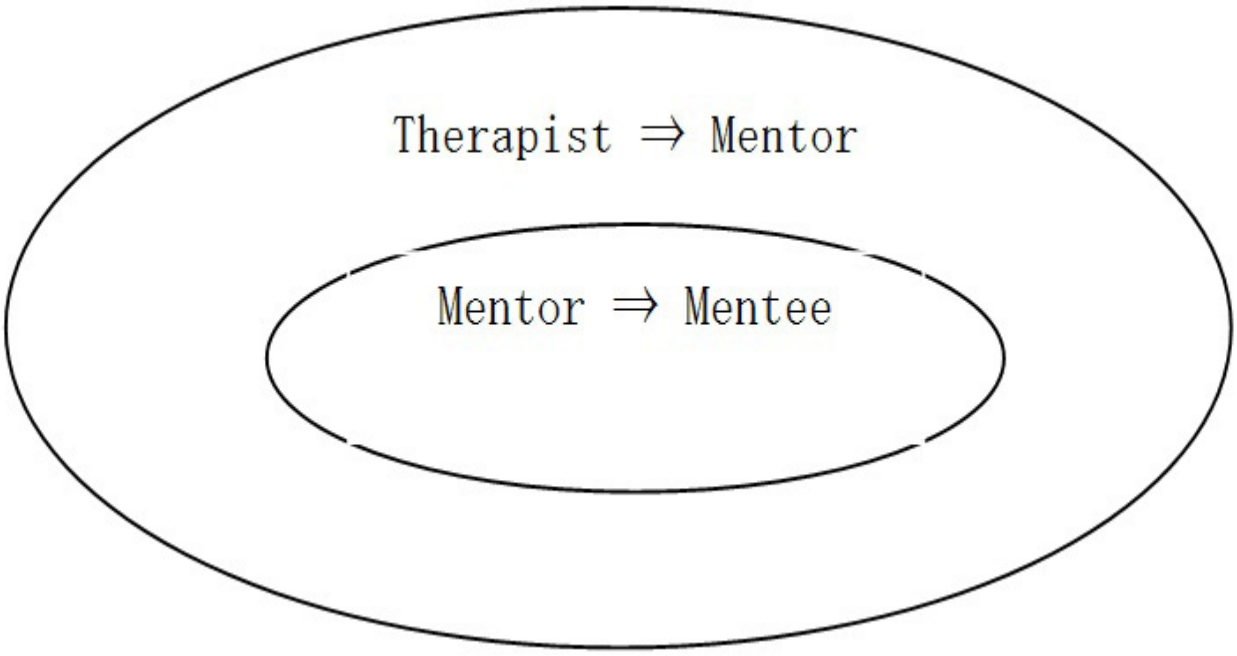

Figure 1: Treatment structure of cognitive behavioral therapy using the mentor system.

Session 1: "Do you understand what stress and burnout are?"; "How helpful do you find the ideas about stress and burnout?"; "Do you feel heard about what you perceive as stressful?"; "Have you been able to hear out the other person?"

Session 2: "Do you understand the outline of CBT?"; "How helpful do you find the idea of CBT?"; "Has this session changed your way of thinking?"; "Do you feel that your stress has been reduced?"

Session 3: "Do you understand the problem-solving techniques?"; "How helpful do you find the problem-solving techniques?"; "Do you think what you have learned in this session will help you solve your stress-related problems?"; "Do you feel that your stress has been reduced?"

Secondary outcome measures

Active listening attitude scale's (ALAS's) 20-item shortened version [10]

This scale consists of two subscales: "listening attitude" and "listening skills." "Listening attitude" includes 10 items; the score will be lower if one begins talking before the other person finishes talking, or if one speaks in an authoritative and forceful manner while listening. "Listening skills" comprised 10 items; the score will be higher if one listens attentively to the other person or if one is an empathetic listener.

Communication skills scale [11]

As a communication skills scale, Encode, Decode, Control, and Regulate Model (ENDCOREs) was used. ENDCOREs consist of 24 items within 6 subscales (6 skills), including "self-control," "expressivity," "deciphering ability," "assertiveness," "acceptance of others," and "interpersonal adjustment." The higher the score on each subscale, the stronger the relevant skill.

Multidimensional empathy scale (MES) [12]

The MES is a scale that can measure multidimensional empathy, such as the tendency to react emotionally and cognitively to the psychological state of others. It consists of 24 items within5 subscales, and can clearly discriminate between "other-oriented" and "self-oriented" response tendencies in both the emotional and cognitive dimensions. The subscales consist of five items for "other-oriented reactivity," four items for "self-oriented reactivity," five items for "susceptibility," all of which measure the emotional aspect, and five items for "perspective taking" and five items for "fantasy," which measure the cognitive aspect. The higher the score on each subscale, the stronger the relevant characteristic.

Maslach burnout inventory (MBI) [13]

This scale was revised by Kubo et al. [14] from Maslach et al. [13]. It consists of three factors "emotional exhaustion,""depersonalization," and "personal accomplishment," and its reliability and validity have been established. The scale consists of 17 items in total, and is rated on a 5-point scale ranging from "Always" to "Never." Higher scores of "emotional exhaustion" and "depersonalization" and lower scores of "personal accomplishment" indicate a higher burnout tendency.

Method of analysis

In this study, CBT using a mentoring system was administered to the nurse mentors. The Shapiro-Wilk test, measuring normality, was conducted for the primary and secondary outcome measures, but the results were $P<0.05$ and the data did not follow a normal distribution. Therefore, the Friedman's test was conducted.

Ethical considerations

This study was conducted after obtaining approval from the University of Hyogo Ethics Review Committee (No. 15006). Before conducting the study, written and verbal requests for research permission were made to and obtained from the manager of the acute care hospital, where the research was conducted. After that, the participants were informed about the study both verbally and in writing, and only those who provided consent were included in the study. The participants were informed in writing that participation was voluntary, they could discontinue their participation in the study at any time without negative consequences, and their data would not be used for any other purpose than this study. The data obtained were statistically processed using code numbers, their privacy was ensured, and no personal information was disclosed.

Results

Participants' characteristics

The characteristics of the participants are shown in Table 2. The research participants were 52 nurse mentors. Of them, 48 (5 male nurse mentors and 43 female nurse mentors) were included in the analysis after attending three sessions, while those with missing data in their questionnaire responses were excluded. Participants' mean age was 30.35±5.20 years. The mean number of years of clinical experience as nurses was 7.23±4.39 years. In terms of the level of education, 35 were vocational school graduates, 3 junior college graduates, and 10 university graduates. In terms of affiliation, 19 were in medical wards, 16 in surgical wards, 2 in the outpatient department, and 5 in operating rooms. As for the experience of preceptorship (guidance for newcomers), 33 participants had such experience and 15 had none.

	Psycho-educational interventions	Group work	Homework
Session 1	An orientation for psycho-educational interventions on stress and burnout among nurses and related factors, counseling mindset, and counseling techniques	Group work on perceived stress in performing current duties and listening and empathic understanding.	Self-monitoring of stress scenes
Session 2	Overview of CBT, and cognitive restructuring and its relation to stress	Group work involving role-playing stressful situations and experiencing how cognitive restructuring can change one's mood by changing one's thoughts.	Five column methods
Session 3	Problem-solving skills training	Group work on problem-solving techniques	Practice of Problem-solving skills training

Table1: Contents of the CBT program using the mentoring system.

Results of the primary outcome measure

In terms of the acquisition of knowledge of CBT, Friedman's test was calculated before, immediately after, and three months after the intervention, and the knowledge of CBT significantly improved (χ^2 = 8.89, p < 0.01) (Table 3). Specifically, significant improvement was found in "partial focusing" (χ^2 = 3.75, p < 0.05), "overestimation/underestimation" (χ^2 = 15.56, p < 0.01), "extreme generalization" (χ^2 = 6.67, p < 0.10), "listening" (χ^2 = 5.19, p < 0.05), and "brainstorming" (χ^2 = 8.52, p < 0.05 (Table 4). In addition, questions were asked in each session to evaluate the level of understanding and satisfaction. In Session 1, the questions and recorded values (within parenthesis) were as follows: "Do you understand what stress and burnout are?" (M = 4.57, SD = 0.50); "How helpful do you find the ideas about stress and burnout?" (M = 4.40, SD = 0.56); "Do you feel heard about what you perceive as stressful?" (M = 4.77, SD = 0.43); and "Have you been able to hear out the other person?" (M = 4.57, SD = 0.63). In Session 2, the questions and recorded values (within parenthesis) were as follows: "Do you understand the outline of CBT?" (M= 4.48, SD= 0.57); "How helpful do you find the idea of CBT?" (M= 4.55, SD= 0.57); "Has this session changed your way of thinking?" (M = 4.10, SD = 0.77); and "Do you feel that your stress has been reduced?"

		n	%			n	%
Gender	Males	5	10	Qualification	Nurses		
	Females				Public health nurse	6	13
Department	medical wards	19	40		midwife	3	6
	surgical wards	16	33				
	outpatient department	2	4	Work formats	Day shift	10	21
	Operating room	5	10		Day shift and duty	4	8
	Intensive care units	2	4		3 shifts	15	31
	Pediatrics	4	8		2 shifts	16	33
Educational background	Vocational school	34	71		Night shift	3	6
	Junior college	3	6	The experience of preceptorship (guidance for newcomers)			
	University	8	17		Yes	33	69
	Graduate School	1	2		None	15	31
	Advanced course	2	4				

Table 2: Participants' characteristics.

	Before		After		Three months after			
	M	SD	M	SD	M	SD	χ^2	P
KCBTN	10.48	2.31	11.66	2.33	12.18	1.69	8.79	0.01

Table 3: Changes in knowledge of cognitive behavioral therapy.

No		Before	After	Three months after	χ^2	P
1	Cognition	15%	17%	17%	1.65	0.78
2	Automatic thoughts	8%	8%	8%	1.34	1.00
3	Schemas	22%	28%	28%	0.02	0.30
4	Cognitive restructuring	42%	42%	42%	0.00	1.00
5	Unfounded judgments	47%	48%	48%	1.34	1.00
6	Black-and-white thinking	50%	50%	50%	0.00	1.00
7	Partial focusing	35%	45%	46%	0.50	0.05
8	Overestimation and underestimation	23%	47%	48%	0.14	0.00
9	Ought-thinking	47%	48%	48%	2.06	0.55
10	Extreme generalization	33%	47%	47%	2.59	0.01
11	Self-association	38%	45%	45%	0.05	0.17
12	Emotional reasoning	23%	32%	32%	0.47	0.19
13	Self-fulfilling prophecy	38%	40%	39%	1.31	0.75
14	Listening to clients	38%	48%	47%	1.28	0.02
15	Problem-solving	20%	30%	44%	0.02	0.00
16	Brainstorming	28%	45%	44%	0.02	0.00

Table 4: Changes in KCCTN correct answer rate.

(M = 4.07, SD = 0.75). In Session 3, the questions and recorded values (within parenthesis) were as follows: "Do you understand the problem-solving techniques?" (M = 4.53, SD = 0.51); "How helpful do you find the problem-solving techniques?" (M = 4.50, SD = 0.51); "Do you think what you have learned in this session will help you solve your stress-related problems?" (M = 4.30, SD = 0.75); and, "Do you feel that your stress is reduced?" (M = 4.10, SD = 0.88) (Table 5).

Results of the second outcome measures

"Emotional exhaustion" (χ^2= 8.58, p<0.01) and "depersonalization" (χ^2= 6.75, p<0.01) decreased and "personal accomplishment" (χ^2= 10.55, p<0.01) improved in the burnout category. Communication skills such as "deciphering ability" (χ^2= 8.53, p<0.01) and "expressivity" (χ^2= 10.63, p<0.01) on the communication skills scale improved. In addition, the mean values for "empathic understanding" and "active listening" also improved, although no significant differences were found (Table 6).

Discussion

Primary outcome measure

After the implementation of CBT for the nurse mentors, the KCBTN score, which measures the acquisition of knowledge of CBT, significantly improved before, after, and three months after the intervention, suggesting that this intervention program was effective in helping the nurse mentors acquire knowledge about CBT. In the

Session 1	M	SD
1.Do you understand what stress and burnout are?	4.57	0.50
2.How helpful do you find the ideas about stress and burnout?	4.40	0.56
3.Do you feel heard about what you perceive as stressful?	4.77	0.43
4.Have you been able to hear out the other person?	4.57	0.63
Session 2	M	SD
1.Do you understand the outline of CBT?	4.48	0.57
2.How helpful do you find the idea of CBT?	4.55	0.57
3.Has this session changed your way of thinking?	4.10	0.77
4.Do you feel that your stress has been reduced?	4.07	0.75
Session 3	M	SD
1.Do you understand the problem-solving techniques?	4.53	0.51
2.How helpful do you find the problem-solving techniques?	4.50	0.51
3.Do you think what you have learned in this session will help you solve your stress-related problems?	4.30	0.75
4.Do you feel that your stress is reduced?	4.10	0.88

Table 5: Evaluate understanding and satisfaction of each session.

		Before		After		Three months after		χ^2	P
		M	SD	M	SD	M	SD		
Active Listening Attitude Scale's (ALAS's)	Listening attitude	26.98	5.01	29.05	6.16	27.56	5.75	0.98	0.61
	Listening skills	35.33	3.87	34.91	4.03	35.93	3.83	1.90	0.39
Communication Skills Scale	Self- control	16.67	3.29	16.81	2.47	17.23	3.20	0.40	0.82
	Expressivity	15.62	2.48	16.48	2.05	15.33	2.76	10.60	0.00
	Deciphering ability	16.43	2.63	15.33	2.89	14.71	3.25	8.53	0.01
	Assertiveness	18.57	3.05	19.95	2.61	19.75	4.15	2.42	0.30
	Acceptance of others	17.82	2.85	18.55	2.23	17.91	3.33	3.50	0.17
	Interpersonal adjustment	10.18	2.14	10.57	2.88	10.30	2.36	1.65	0.44
Multidimensional Empathy Scale (MES)	Other- oriented reactivity	12.57	2.05	12.09	1.71	11.66	2.26	2.93	0.23
	Self- oriented reactivity	10.70	2.51	9.81	2.04	10.49	2.77	0.53	0.77
	Susceptibility	14.98	1.59	14.91	1.90	14.84	1.80	0.27	0.87
	Perspective taking	11.95	2.69	12.61	3.01	10.91	2.60	3.24	0.20
	Fantasy	12.70	3.89	12.77	2.94	12.14	3.63	0.47	0.79
Maslach Burnout Inventory (MBI)	Emotional exhaustion	16.11	5.17	15.50	3.86	17.66	4.39	8.58	0.01
	Depersonalization	12.36	4.57	11.02	3.98	13.25	5.76	6.75	0.03
	Personal accomplishment	15.64	4.41	13.50	3.58	15.23	4.01	10.55	0.01

Table 6: Results of the second outcome measures.

case of parent training, which is the theoretical basis of this program, parent training improved the percentage of correct answers to the Knowledge of Behavioral Principles Applied to Children (KBPAC) [15]. Our findings revealed that participation in this program also increased the knowledge of CBT. Accordingly, we will look at the individual questionnaire items that yielded significant statistical results while relating them to each other.

In terms of items related to cognitive distortion in the KCBTN, "partial focusing," "overestimation/underestimation," and "extreme generalization" improved significantly. First, "partial focusing" refers to "focusing on only a small part of things and drawing a rash conclusion." Second, "overestimation/underestimation" refers to "making a big deal of what one is interested in, while not paying adequate attention to what does not fit one's ideas or expectations." Finally, "extreme generalization" refers to "taking a small number of facts and concluding that all things will turn out the same way." The improvement of knowledge related to these cognitive distortions is considered to be the result of implementing psycho-educational interventions on overview of CBT, and cognitive restructuring and its relation to stress; and group work involving role-playing a stressful situation and experiencing how cognitive restructuring can change one's mood by changing one's thoughts in Session 2.

Following this, the items related to "listening" in the KCBTN were improved. Listening is one of the most important techniques in the counseling mindset. This improvement in listening is considered to be the result of implementing psycho-educational interventions on stress and burnout among nurses and related factors, counseling mindset, and counseling techniques; and group work on perceived stress in performing current duties, and listening and empathic understanding in Session 1. Finally, items related to "brainstorming" on the KCBTN improved. Brainstorming is a technique of eliciting ideas by working in groups to speak and think freely, and is considered to be one of the most important problem-solving techniques. The improvement in the knowledge of brainstorming is considered to be the result of implementing psycho-educational interventions on problem-solving skills training and group work on problem-solving techniques in Session 3. In addition, we evaluated the level of understanding and satisfaction for each session and found that all the scores were 4 points or higher, indicating that the program yielded a high level of understanding and satisfaction. To summarize, our findings revealed that the three-session program of CBT using the mentoring system is an effective program for acquiring knowledge of CBT for nurse mentors.

Secondary outcome measures

Implementation of the CBT program for mentors decreased the secondary outcome measures for burnout, such as "emotional exhaustion" and "depersonalization," and improved the sense of "personal accomplishment." Ohue et al. [7] conducted CBT on third-year nurses and reported a reduction in burnout. Similar results were obtained in this study. This means that CBT for nurse mentors can not only improve their knowledge but also improve their mental health. In the case of parent training, which is the theoretical basis of this program, the results of 10 sessions of parent training for mothers of infants with attention deficit hyperactivity disorder demonstrated a decrease in the severity of the child's problematic behaviors and problems, an increase in the achievement of target behaviors, and a decrease in the mother's caregiving stress and depression [16]. In other words, this program may be effective not only in helping nurse mentors acquire knowledge about CBT, but also in improving their own mental health.

The mental health of nurses working with COVID-19 patients has been reported globally [3], and in Japan [4]. The establishment of a mental health support system for nurses is an urgent issue. During the COVID-19 pandemic, a support system within the hospital is important for infection control. This implies that this CBT program using a mentoring system can be an important mental health support system in the post COVID-19 era.

The communication skills of "deciphering ability" and "expressivity" improved after the CBT program was implemented. Deciphering ability is the skill of correctly interpreting the thoughts and feelings that the other person wants to convey. Expressivity is the skill of expressing one's thoughts and feelings well [11]. Nurse mentors' related communication skills improved after CBT. In terms of deciphering ability, the listening program and the group work in Session 1 improved the mentors' ability to correctly read the thoughts and feelings that the other person wanted to convey. Expressivity was also improved through group work in each session, where participants were trained to clarify their own thoughts and communicate them. This is a fundamental communication skill in the practice of CBT. This program was also able to improve such basic communication skills as secondary effects.

In conclusion, CBT using a mentoring system is effective in reducing burnout of nurse mentors, and improving communication skills, which are fundamental in the practice of CBT, as secondary effects. This study examined the effects of CBT on nurse mentors. The mentoring system is a mediated method of treatment. It will be necessary for the nurse mentors who received CBT in this study to conduct CBT on their nurse mentees and examine the effectiveness of the therapy program. In addition, it was difficult to set up a control group in this study due to the nurses' work schedule. In the future, it will be necessary to increase the sample size and examine the results using a randomized controlled trial. It can be said that there is a limit to generalization because the data was conducted only in one city in Japan. Intervention should be considered in other countries in the future.

Conclusion

The purpose of this study was to examine the effects of a staff training program based on CBT to evaluate the burnout of nurse mentors. The findings demonstrated that the knowledge of CBT, which is the primary outcome measure, significantly improved. Specifically, significant improvement was observed in "partial focusing," "overestimation/underestimation," "extreme generalization," "listening," and "brainstorming." As secondary outcome measures, burnout subscales such as "emotional exhaustion" and "depersonalization" decreased, whereas the sense of "personal accomplishment" improved. Communication skills such as "deciphering ability" and "expressivity" on the communication scale improved. These results demonstrated that the implementation of CBT for nurse mentors was effective in not only reducing burnout, but also in improving communication skills.

Competing Interests

The authors declare that they have no competing interests.

Author's Contribution

Contributors Takashi Ohue was responsible for the organization and coordination of the trial. Takashi Ohue was the chief investigator and also responsible for the data analysis. Takashi Ohue, MasaruMenta contributed to the writing of the final manuscript. All members of the Study Team contributed to the management or administration of the study.

Funding

This study was supported by a Grant-in-Aid for Scientific Research (19K10729).

References

1. World Health Organization (2020) Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV).
2. International Council of Nurses (2020) ICN calls for data on healthcare worker infection rates and deaths.
3. Lai J, Ma S, Wang Y, Cai Z, Hu J, et al. (2020) Factors Associated with Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. JAMA Netw Open 3: e203976.
4. Ohue T, Togo E, Ohue Y, Mitoku K (2021) Mental health of nurses involved with COVID-19 patients in Japan, intention to resign, and influencing factors. Medicine (Baltimore) 100: e26828.
5. Japanese Nursing Association (2015) 2014 Fact-finding report on the dissemination of night shift/shift work guidelines for nurses.
6. Ohue T, Moriyama M, Nakaya T (2011) Examination of a cognitive model of stress burnout and intention to resign for Japanese nurses. Jpn J Nurs Sci 8: 76-86.
7. Ohue T, Moriyama M, Nakaya T (2015) The Effect of the Group Cognitive Behavior Therapy in a Nurse's Burnout and Intention to Resign. Health 7: 1243-1254.
8. Cavell TA (2005) Parent Training. Hersen, M(Eds.) (2005) Encyclopedia of Behavior Modification and Cognitive Behavior Therapy: Volume II: Child Clinical Applications Volume. Sage Publication.
9. Ohue T, Menta M (2016) Preparation of Cognitive-behavioral therapy (KCBT) and examination of reliability and validity. Proceedings of the Japan Cognitive-Behavioral Therapy Society Conference 42: 138- 139.
10. Kubota S, Mishima N, Nagata S (2004) A study of effects of active listening on listening attitudes of middle managers. J Occup Health 46: 60-67.
11. Fujimoto M, Daibo K (2007) ENDCOREs: a hierarchical structure theory of communication skills. Pasonariti Kenkyu 15: 347-361.
12. Suzuki Y, Kino S (2008) Development of the Multidimensional Empathy Scale (MES) : Focusing on the Distinction Between Self- and Other-Orientation. The Japanese Journal of Educational Psychology 56: 487-497.
13. Maslach C, Jackson SE (1981) The Measurement of experienced burnout. Journal of Occupational Behaviour 2: 99-113.
14. Kubo M, Tao M (1992) Measurement of Burnout. Psychology Review 35: 361-376.
15. Menta M, Ito K, Okuma H, et al. (1995) Development and Outcome of the Hizen Parenting Skills Training Progrem for Mothers of Children with Mental Retardation. Japanese Journal of Behavior Therapy 21:25-37.
16. Menta M (2007) About the effect of parent training program on AD/HD. Kyoiku-gaku-ronshu 18: 123-136.