原　著

The Effect of a Program to Increase the Emotional Intelligence of Ward Nurses under the Medical Treatment and Supervision Act[1],[2]

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　Purpose: The purpose of this study was to implement a program to enhance the emotional intelligence (EI) of ward nurses under the Medical Treatment and Supervision Act and to clarify its effectiveness. Method: A total of three 90-minute sessions were conducted once every 4 weeks on a total of 30 nurses from five hospitals working on wards under the Medical Treatment and Supervision Act. Measurements were conducted using the Japanese Wong & Law Emotional Intelligence Scale (J-WLEIS) before the implementation and after all the sessions. Results: The mean values in J-WLEIS indicated an increase in the total score and in subscales. A significant difference was noted in the subscales except for "self-emotions appraisal." Conclusion: Although there are challenges regarding improving "self-emotion assessment," it became clear that this program effectively improved the EI of ward nurses under the Medical Treatment and Supervision Act.

key words: forensic psychiatric nurse, educational program, group discussion

Introduction

In 2005, wards were established under the Medical Treatment and Supervision Act as inpatient facilities where patients with treatable mental illness who committed serious harmful acts to other people (e.g., murder & arson) received necessary treatment for rehabilitation. The medical care provided in these wards is characterized by education aimed toward interiorization to prevent the recurrence of harmful acts to others and individual nursing care provided by a multi-disciplinary team (MDT; Hirabayashi, 2007). Therefore, more personnel are assigned to this ward than conventional psychiatric wards. As nurses belong to both the nursing team and MDT, they often report being caught in the crossfire of opinions from both teams and are concerned about balancing the relationship between the two (Takahashi, Mino, & Miyamoto, 2010). In addition, it was reported that Medical Treatment and Supervision Act ward nurses feel more stresses due to the human environment in the workplace

and experience a higher depersonalization based on the burnout scale compared to nurses in a regular psychiatric wards (Itayama & Tanaka, 2011). Furthermore, Amano, Inokari, Murata & Asai (2012) conducted a simple survey of occupational stress experienced by the ward nurses of Medical Treatment and Supervision Act. The survey revealed that these nurses were more affected by a sense of inadequacy at work and interpersonal conflict than other psychiatric nurses, suggesting that they may be affected by the stress of interpersonal conflict caused by medical care provided by the MDT. It has been reported that organizations and management systems are involved in staff stress in the United Kingdom, which has been treating and nursing mentally ill individuals who have inflicted grievous harm on other people since the 1990s (Oddie & Ousley, 2007).

Emotional intelligence (EI) consists of emotional regulation, use and evaluation, and is a function that recognizes stress responses. Therefore, it is possible that EI is reduced in situations where stress cannot be recognized. In *Emotional Intelligence* by Goleman (1995), EI was named as an emotional quotient that has a greater significance than intelligence in contrast to intelligence quotient. EI affects excellence for nurses (Goleman, 1998) and has been suggested to be very important for the provision of quality care and the mental health of nurses (Furusawa, 2015;. Takei, 2008; Kim, Andrea, Cynthia, Claudia, & Emily, 2015; McCallin, & Bamford, 2007) Although it is necessary to recognize stress and avoid it appropriately, stress has characteristics that prevent an individual from recognizing it as one's own problem. A study that measured the emotional index representing the EI of psychiatric nurses reported that people in their 20s and 30s had a significantly lower emotional index than those in their 50s and 60s (Ishii, Nakajima, Mori, Sugita, Suda, & Hirao, 2014). Based on the above, we believe that subjects in their 20s to 30s with a low emotional index may expect to support the mental health of nurses and the quality of nursing by im-

plementing educational programs to recognize their feelings.

Purpose of this study

The purpose of this study was to implement a program to enhance the EI of ward nurses under the Medical Treatment and Supervision Act and to clarify its effectiveness.

Methods

1. Study Design

Pre- and post-comparative intervention studies without control group were conducted.

2. Subjects

The purpose of this research was explained in writing to nurses who met the following criteria in order to obtain consent to participate in this study. The selection criteria were: (a) Nurses who have been working in wards under the Medical Treatment and Supervision Act for 6 months to 7 years; (b) those who have less than 15 years of psychiatric work experience and are under 50 years of age.

3. Survey facility

The survey was conducted in five hospitals with ward under the Medical Treatment and Supervision Act.

4. Program outline

Study period: May 2017 to April 2018.

1) Theories underlying the program

The program implemented in this study aims to raise self-esteem and self-awareness by (a) evaluating and expressing one's own emotions, (b) evaluating and recognizing the emotions of others, (c) regulating one's own emotions, and (d) being conscious of the role of emotions in improving performance. These four scopes are the sub-abilities in the Wong & Law Emotional Intelligence Scale (WLEIS) based on the theory of EI created by Wong & Law (2002).

As a concrete method, the techniques of self-congruence and emotional throwback (a series called the utilization of emotions) were used, anchored in "gaining insight into a sense of incongru-

Table 1　Outline of the program to enhance emotional intelligence

	Themes or objectives	Content	Specific method or homework
#1	"Understand one's own emotions" 1. Understand the purpose and significance of the program 2. Understand your emotions 3. Understand use of emotions	・Explanation of the purpose and significance of the program and points to keep in mind during implementation ・Perceive pleasant and unpleasant feelings to know one's feelings ・Understand the significance of using emotions ・Explanation of two tasks as homework	Explanation of purpose and procedure based on the implementation procedure. Use worksheets to list the pleasures and discomforts one feels in order of priority. Discuss the reasons for your perception in pairs, and verbalize your emotional perception. Discussion with the whole group. "Gaining an insight into sense of incongruity" (Miyamoto, 1995/2005) 30 minutes lecture on use of emotion, Explanation of points to keep in mind for congruence. Explanation of filling in the first task a "self-congruence sheet" until the next session and filling in the second task a "learning contract sheet" until the last session.
#2	"Gaining insight about sense of incongruity and understanding emotions of others" 1. Gaining insight about sense of incongruity 2. Congruence and emotional throwback 3. Understand the commonalities, similarities, and differences between own and others' feelings through examples 4. Use of emotion from others' standpoint	・Based on felt episodes, gain insight on one's own emotions ・Emotional throwback and talking about the reaction of the other party ・Discuss commonalities, similarities, and differences between own and others' emotions through simulated cases ・Respond from the standpoint of a simulated model	Using the "self-congruence sheet", discuss gaining insight of own emotions, emotional throwback, and the reaction of the other party based on each episode. The group discusses and decides what is good and how to take advantage of gaining insight about incongruity, congruence, and emotional throwback. Find out the commonalities, similarities, and differences between the own and others' emotions by examining them based on familiar simulated cases that everyone experiences. Also, if one is part of the case, discuss with the group whether to gain insight about incongruity or perform emotional throwback. Present an example response and compare it with own response.
#3	A "presentation of results for self-expression" 1. Presentation results obtained through use of emotions 2. Use for future utilization of emotions	・Presentation the learning contract each has done ・Share the presentation of the members as a whole and make use of them in the future	Presentation the learning contract by the criteria and methods for target evaluation each has done. After group discussions and sharing of the members presentations, they will discuss how to utilize their emotions in the future and their aspirations. Comment on the presentation, expectation of utilization, and summarize.

ity," as proposed by Miyamoto (1995/2005). Shimomura (2011) reported that if self-esteems is low, the outlook, goals, and plans for the future generally become unclear. Furthermore, by clarifying the outlook, goals, and plans for the future, this study aimed to notify subjects of the suppression of their own emotions, which causes a decrease in self-esteem. This could help to clarify the expression of their own emotions and eventually raise their self-esteem and self-awareness. We measured the learning effect of this program by increasing the EI of subjects.

2) Program details and methods (Table 1)

Based on previous studies on EI training and program for nurses (Koyano, 2007; Okamura, 2013; Sato, Sugaya, & Mori, 2018), the program consisted of three 90-minute sessions that were held once every 4 weeks.

The content of the program: The first session is understanding one's own emotions. The second ses-

sion is gaining an insight into sense of incongruity and understanding the emotions of others. This entails understanding the commonalities, similarities, and differences between one's own and others' feelings through examples. The third session is a presentation of results for self-expression. In each session, a worksheet was used to detect and identify one's own emotions from words and actions triggered by a sense of incongruity, thereby facing and evaluating one's emotions. A concrete method for achieving this is to conduct pair work, group work, case studies, and present the results; therefore, an emphasis was placed on learning from discussions between participants.

The program included two tasks that would serve as homework. In the first task, the subjects were asked to use a recording process called a "self-congruence sheet" (partially revised) to "gain insight about sense of incongruity" and perform "self-congruence" and "congruence and emotional throwback." In the second task, subjects were asked to work on a "learning contracts sheet" that solve emotional problems in interpersonal relationships.

3) Program reliability

The program was implemented by a researcher with experience as a facilitator in a patient education program by a psychologist, a sub-facilitator in a monthly case study conference on Miyamoto's "focusing on a sense of incongruity," and a trainer in an education program for nurses.

Furthermore, the quality of the program was ensured under the supervision of a psychiatric nursing expert.

5. Survey methods

1) Program evaluation

The program evaluation was carried out using the Japanese Wong & Law Emotional Intelligence Scale (J-WLEIS) created by Toyota & Yamamoto (2011). J-WLEIS consists of four subscales (self-emotional appraisal, appraisal of others' emotions, regulation of emotions, and use of emotions) and 16 items whose reliability and validity are confirmed (Toyota, Yamamoto, 2011). Furthermore, its useful-

ness as a scale is also clarified (Ishii, 2014; Okada, 2015; Nakajima, 2018).

The scale is scored based on 1 to 7 points (1: Strongly disagree, 2: Disagree, 3: More or less disagree, 4: Undecided, 5: More or less agree, 6: Agree, 7: Strongly agree), with higher points indicating a higher EI.

The survey was conducted before the program and after each session of the program, and a before-after comparison was conducted.

2) Retrospective survey after the session

Looking back on the session, a survey was conducted regarding the degree of understanding of participants, degree of verbalization of one's emotions, and degree of feasibility for the use of emotions based on a 5-point scale (1: Completely unable, 2: Slightly unable, 3: Able, 4: Slightly able, 5: Completely able). The reason for the self-appointed score was investigated as a free description formula.

6. Analytical methods

1) Data analysis

IBM SPSS Statistics version 24 was used for data analysis.

The comparison of EI values based on the subject background before the program and before and after the program was analyzed using the following.

A Mann-Whitney U test was used to compare EI before and after the program by gender, length of experience in psychiatric wards, and educational background.

Kruskal-Wallis tests were conducted to compare emotional intelligence before and after the program by age group, years of clinical experience group, and years of experience on the current ward.

Wilcoxon signed-rank test was performed on the subscales and items for EI values before and after the program.

Furthermore, in the retrospective survey of the program, the 5-point scale was descriptively tabulated, and a free description of the reason for the score was tabulated.

Table 2　Subject Background (*N*=30)

		n	%	*M*	*SD*	*Mdn*
Sex	Male	19	63.3			
	Female	11	36.7			
Age	Twenties	6	20.0	25.00	1.55	25.00
	Thirties	13	43.3	34.31	3.22	34.00
	Forties	11	36.7	43.00	2.53	42.67
Clinical experience						
	2 years more and 5 years less	8	26.6	3.04	0.95	2.95
	6 years more and 10 years less	11	36.7	8.92	1.29	9.30
	11 years more	11	36.7	14.16	3.91	12.83
Psychiatric experience						
	5 years less	15	50.0	3.24	1.00	3.24
	6 years more	15	50.0	9.41	1.93	9.40
Current ward experience						
	Within 1 year	10	33.3	0.86	0.19	0.89
	2 years more and less than 3 years	14	46.7	2.25	0.63	2.20
	3 years more	6	20.0	4.15	0.95	3.88
Educational background						
	Vocational school	25	83.3			
	University	5	16.7			

Note, M: mean, SD: standard deviation, Mdn: median

2）Ensuring reliability and validity

The reliability of the scale used in this study was analyzed, the Cronbach α coefficient was calculated, and the internal consistency was confirmed.

7. Ethical considerations

This study was conducted after obtaining approval from the Ethics Review Board of the researcher's institution (notification number 1125-1) and the Ethics Review Board of the target facilities, so that the individuals and their affiliations could not be identified.

Results

1. Subject background (Table 2)

The subjects consisted of 21 men (63.3%) and 9 women (36.7%). The mean age was 35.5 years (*SD*= 7.1) with 6 people in their 20s (20.0%), 13 in their 30s (43.3%), and 11 in their 40s (36.7%). The mean length of clinical experience was 9.1 years (*SD*=5.0). The mean length of psychiatric experience was 6.2 years (*SD*=3.4). The mean length of service in the current ward was 2.1 years (*SD*=1.3). In terms of professional educational background, 25 people graduated from vocational school (83.3%), and 5 peo-

ple graduated from university (16.7%).

2. Implementation status of the program

In terms of the implementation status of the program, the same members were implemented for each course at the hospital to which they belonged. There was a total of nine courses and the mean number of participants was 3.3 people, with 2 as the minimum and 6 as the maximum. The background of the nurses in each course is shown in Table 3. In terms of the implementation period from the first to the third session, all courses were implemented in 3 months.

In terms of the required time for each session, the first session took an average of 89.4 minutes (*SD*= 1.8), the second session took an average of 81.9 minutes (*SD*=6.5), and the third session took an average pf 49 minutes (*SD*=5.8).

3. The reliability of the scales used

The Cronbach α coefficient of J-WLEIS was .84 for the total score before the program and .83 after the program. The Cronbach α coefficient of the subscales score was .85 for self-emotional appraisal before the program and .85 after the program; for the appraisal of others' emotions, the score was .84

Table 3　Background of nurses in each course (*N*=30)

Course	Sex		Age	Clinical experience	Psychiatric experience	Current ward experience
	Male	Female				
			Mean (Minimum, Maximum)			
1	1	1	44.5 (42, 48)	16.5 (13, 20)	9.5 (9, 10)	4.5 (3, 6)
2	3	0	36.6 (34, 38)	10.5 (9, 12.5)	6.3 (1.5, 12.5)	2.0 (1, 3.5)
3	5	1	35.3 (26, 44)	9.6 (3.5, 15)	5.6 (4.4, 11)	1.8 (0.6, 3.4)
4	3	2	33.8 (24, 46)	7.3 (2, 10)	6.5 (3, 9.6)	3.4 (1.9, 4)
5	1	2	30 (24, 34)	9.3 (2.8, 14)	6.9 (2.8, 9)	1.6 (0.6, 2.8)
6	1	1	44 (43, 45)	16.5 (10, 23)	7 (4, 10)	1.5 (1, 2)
7	3	0	29.7 (23, 36)	4.7 (2, 9)	4.7 (2, 9)	1.9 (0.8, 3)
8	0	3	40.7 (38, 43)	6.6 (3, 10.8)	4 (3, 6)	1 (1, 1)
9	2	1	33.3 (26, 40)	8.3 (2, 13)	8.3 (2, 13)	2 (1, 3)

Table 4　Comparison of the total score of overall EI scale and mean scores and standard deviation of subscales before and after the program (*N*=30)

	Before the program			After the program				
	M	*Mdn (IQR)*		*M*	*Mdn (IQR)*		*W*	*P* value
Total score	70.20	65.50	(62-79)	77.57	77.00	(70-83)	419.00	.001***
Self appraisal	20.93	21.00	(19-24)	21.80	21.00	(20-24)	263.00	.074
Others appraisal	18.17	18.00	(17-20)	20.20	20.50	(19-22)	315.00	.001***
Use of emotion	15.00	15.00	(12-18)	17.20	17.50	(16-19)	329.00	.004**
Regulation of emotion	16.10	16.00	(13-19)	18.37	18.00	(16-21)	328.50	.001***

Note, *M: mean*, *Mdn (IQR)*: median (Interquartile Range),*W*: Wilcoxon rank sum test, **: *p* <.01 ***: *p* <.001

before the program and .86 after the program; for the use of emotions, the score was .85 before the program and .85 after the program; and for regulation of emotions, the score was .85 before the program and .84 after the program.

4．Characteristics of EI in terms of overall and gender before and after the program (Table 4)

The median value before the program was 65.5 (*IQR*62-79), while the median value after the program was 77.0 (*IQR*70-83), indicating that the value increased after the program (*W*=419, *p*=.001). In the subscales, the median in self- emotions appraisal was 21.0 (*IQR*19-24) before the program and 21.0 (*IQR*20-24) after the program, indicating no significant difference (*W*=263, *p*=.074). The appraisal of others' emotions was the median in the program with a value of 18.0 (*IQR*17-20), while after the program, the median was 20.5 (*IQR*19-22), indicating that the value increased after the program (*W*=315, *p*=.001). The median for the use of emotions before

the program was 15.0 (*IQR*12-18), while the median after the program was 17.5 (*IQR*16-19), indicating that the value increased after the program (*W*=329, *p*=.004). The median in the regulation of emotions before the program was 16.0 (*IQR*13-19), while the median after the program was 18.0 (*IQR*16-21), indicating that the value increased after the program (*W*=328.5, *p*=.001).

Before the program, there were no significant differences in total and subscale scores by age, years of clinical experience, years of experience on psychiatric wards, years of service on the current ward, and educational background. However, in terms of gender, the median for males in the regulation of emotions was 19.0 (*IQR*=16-20), and for females this value was 13.0 (*IQR*=12-15); therefore, this value was significantly higher for males than for females.

Before and after the program, the following significant differences were observed after the pro-

gram in the following itemized tests: item 16 (I am able to control my feelings well: U=171.5, p=.001); item 15 (I am able to immediately calm down when I get mad: U=153.5, p=.015); item 13 (I am able to suppress the rise of my emotions, so I am able to handle hard tasks: U=39.0, p=.019); and item 14 (I am very good at controlling my feelings: U=134.5, p=.025). In the appraisal of others' emotions, significant differences were noted in the following items: item 7 (I am sensitive to the feelings and emotions of others: U=262.0, p=.001); item 8 (I understand the feelings of those around me well: U=136.0, p=.002); and item 5 (I understand the feelings of a friend when I look at their behavior: U=85.0, p=.003). In use of emotion, significant differences were noted in item 9 (I always set my goals and try my best to achieve them: U=182.0, p=.003) and item 10 (I always tell myself that I am a talented person; U=232.5, p=.016). Self-emotional appraisal showed an increase in all four items, but no significant difference was observed.

5. Retrospective survey after the session

In the verbalization of one's own emotions, 15 people (50.0%) said that they were "completely able," 7 people (23.3%) said that they were "slightly able," 7 people (23.3%) said that they were "able," and 1 person (3.3%) said that they were "slightly unable."

In the free description in particular, there were nine answers about "personal tendencies and their changes," seven answers about "being able to share and empathize with other team members," seven answers about "verbalization through content and presentations I summarized," and six answers about "my own negative emotions." One person who answered, "slightly unable" said that I was "worried about any disagreement." Participants talked about the things with which members empathized, and the presence of members in whom the participants could confide played a significant role in the location where they could talk about their negative emotions. Furthermore, many participants were aware of their own changes, such as the disap-

pearance of guilt about self-disclosure and change in feelings toward people they did not like.

Discussion

Compared to the study results conducted on psychiatric nurses or general nurses (Ishii et al., 2014), the mean values in J-WLEIS (indicating EI) before the program were lower, but the values after the program were higher. We could have significantly increased the total score of EI, subscales for the appraisal of others' emotions, the use of emotions, and regulation of emotions before and after the program. This suggested that our program is effective for ward nurses under the Medical Treatment and Supervision Act.

The following are considered the reasons why factors could have significantly increased and the subscale "self-emotion appraisal" was not significantly enhanced.

1. The effect of task setting that possesses both embodiment and emotion

Comparing the four items in regulation of emotion before and after the program, significant differences were observed in all items, and the highest increase was noted in the ability to regulate one's emotions.

We believe that being able to notice one's emotions through the program led to a search for understanding the meaning of emotions. This functioned similarly to the interiorization by Nishimoto (2010) which is why high scores were obtained from items in the regulation of emotion. According to Nishimoto (2007), the dynamism of interiorization can be explained from three viewpoints: imitation, symbolic manipulation, and ingrowing. Imitation is not just copying or repetition but an active reconstructive experimentation in which the learner internalizes the model of interest within themselves (Nishimoto, 2007). Symbolic manipulation explains that "thinking is essentially the function of manipulating symbols"(Nishimoto, 2007); the symbols are words, and the function is a verbal action. Vygotsky (2001) described subjective meaning accompanied

by individual emotions and experiences based on personal meaning, and ingrowing demonstrated Vygotsky's "development of personal meaning"(Nishimoto, 2020). This means that the meaning of personal emotions and experiences are important for internal growth.

We examine the association of emotions with this program. From the perspective of imitation, the use of response examples when examining simulated cases and in the use of the results of members in the presentation are noted. We believe that, based on the examples of simple responses, subjects casually or unconsciously made the content of the presentations of members that they did not notice, the subjects had introspected the target model within themselves. Moreover, they considered that it was a positive reconstruction.

From the viewpoint of symbolic manipulation, we believe that within the 3-month period marking the end of the third session, the participants were able to progress in terms of automatization of emotional regulation through the two homework tasks. This allowed them to consciously communicate their emotions to another other person in a form of appropriate expression (Miyamoto, 2005) and objectively view their own emotions outside of the sessions by paying attention to the uncomfortable incongruence triggered by the words and actions of the other party and performing self-congruence. Automatization is the process of shifting from the conscious processing stage to the automatic or unconscious processing stage in information processing (Posner et al., 1987; Oishi, 2004). Although the program is only composed of three sessions, we concluded that the monthly homework and the 3-month period greatly influenced symbolic manipulation, which is a part of interiorization.

In this study, ingrowing refers to the transformation of the participants' own inner meaning. We also believe that answering the worksheets in every session enabled participants to face their own emotions, be aware of themselves, and objectively view their own emotions (Funatsu, 2008). In other words,

they developed the sense of being able to recognize one's emotions.

However, Nishimoto (2010) states that imitation, symbolic manipulation, and ingrowing are not sufficient and that problems of embodiment and emotion are inseparable from interiorization. Focusing on this point, the tasks in this program required the participant to act by themselves to "communicate with other workers that they do not like", which was presented as an example of a learning contract. If you do not do this, you will not be able to carry out the task. In other words, the tasks had both embodiment and emotion, and by securing both, we believe that the participants were able to strengthen their interiorization.

2. The effect of group discussion

A significant difference was noted in three items in the appraisal of others' emotions, indicating that the participants were aware of the emotions of others and that their ability to appraise improved.

The second session focused on gaining insights into incongruity and understanding the emotions of others based on simulated cases. In this session, participants were able to understand the commonalities, similarities, and differences between their own and others' emotions and express themselves from the standpoint of others (Dörnyei & Murphey, 1997; Yoshida et al, 2014). We believe that this is the reason for the increased observation in the three items in this subscale ("I understand the feelings of a friend when I look at their behavior," "I am sensitive to the feelings and emotions of others," and "I understand the feelings of those around me well."). In group discussions, many participants thought that they were able to talk without concern because members empathized with their personal experience. Despite the differences in age, years of clinical experience, and roles in the workplace, we believe that the members who empathized with the subjects created an environment where they could feel at ease and were able to open up about their feelings. Moreover, we believe that the appraisal was a result of sharing emotional experiences leading to

the improvement of interpersonal relationships among the group members. This is thought to have improved the appraisal of others' emotions as an effect of a heterogeneous group similar to human relationship training (Mihara, 1990).

3. Formation of positive thinking

In the use of emotion, improvements were noted in two items ("I always set my goal and try my best to achieve them," and "I always tell myself that I am a talented person"). In this program, we believe this improvement was a result of utilizing these items as the "presentation of the benefits of EI use" in emotional situations involving interpersonal relationships. Regardless of the degree of achievement, what the participants all had in common was the task of utilizing EI toward the personal goals they set, and we believe that the task itself was a change in consciousness and behavior. Through the program, the participants were able to look inward and discuss their positive emotions throughout the program as seen in participants who reflected on the emotions they felt while working on the tasks and those who experienced a change in emotions toward a person they did not like. Furthermore, we believe that the members were empowered by assertive remarks, allowing them to understand the meaning of self-disclosure and respond with positive remarks rather than feeling guilty. We believe that this caused members to become aware of themselves and broaden their horizons, creating a positive sense of self-efficacy and increasing their motivation (Shimazu, 2015). Finding positive meaning in the face of adversity or stress expanded the repertoire of thoughts and actions, making it possible for participants to obtain various positive resources. We believe that the thoughts and actions of the participants expanded as the number of positive emotions and experiences increased (Fredrickson & Joiner, 2002). This resulted in the improvement in items for the use of emotion ("I always set my goal and try my best to achieve them," and "I always tell myself that I am a talented person").

4. Need for the adoption of mutual feedback

The "self-emotions appraisal" showed an increase in all four items, but no significant difference was observed. We believe that this did not sufficiently improve the ability to face one's emotions. However, although these results were similar to a previous study (Okamura, 2013), wherein no significant change was observed in the values of "insight" before and after the training, the values before the implementation of the program were all higher than those of the previous four-item study. Although it is difficult to make a simple comparison, it was considered difficult to recognize this effect because the values before implementation were high for all four items (Hikido et al., 2018). Even though this program confronts and evaluates one's emotions by detecting and identifying one's emotions from words and actions triggered by discomfort, it is also possible that the subjects had a high self-emotional appraisal to begin with. Therefore, in the future, in order to enhance self-insight, it is necessary to devise the structure of the program to incorporate mutual feedback between students.

The effect of mutual feedback between participants in education and training has been clarified (Shirahata & Takeda, 2010; Goto, Mitsumori, & Nagaya, 2017), and we believe that the "boomerang effect" presented by Nagatani (2013) and the "crowding out effect of motivation" reported by Daido (2006) are likely to occur. Therefore, by incorporating mutual feedback into this program, we believe that the ability to face one's own emotions, which connects to "self-emotion appraisal," could be sufficiently improved.

From the above, it is clear that this program had the effect of increasing the EI of ward nurses under Medical Treatment and Supervision Act. This program is applicable to people who work in a stressful environment with the involvement of many professionals.

Limitations of the study

The candidates for this study participated in this

program in the same ward and carried out several patient programs, which imposed a burden on creating an appropriate schedule. As such, the effect of this program has not been verified by comparison with the control group. In intervention studies, it is ideal to conduct a follow-up survey; however, this could not be conducted considering the burden on the creation of a schedule and on the participants. In the future, it will be necessary to carry out follow-up surveys and verify effects based on these issues. It is necessary to consider improvements such as shortening the program implementation time. It is also possible that the participants' observations of familiar faces from the same ward impacted the effect of the group.

In addition, as "self-emotions appraisal" did not significantly improve, it became clear that this program needs to improve self-insight, which requires further research.

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