

Social skills training improves clinical residents' communication skills

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Objective: The aim of this study was to evaluate the effectiveness of social skills training (SST) included in a psychiatric training program including basic communication training for clinical residents using a self-evaluated questionnaire.

Methods: The subjects were 99 clinical residents. Among them, 44 participated in basic training and 45 participated in basic training and SST sessions. The score of the communication skills questionnaire and Kikuchi's Social Skill Scale-18 items (KiSS-18) were used as indicators of communications skills and social skills, respectively. There were 63 clinical residents total number of responding subjects for the analysis was (33 in the BT group and 30 in the SST group) who completed each questionnaire before and after undergoing the training.

Results: In the SST group, there were statistically significant increases in the scores of assertive communications skills and KiSS-18 with a small effect size. There was also a marginal statistically significant increase in the score of general communications skills, which is a subscale of the communication skills questionnaire. As for social skills, there was a statistically significant difference in the KiSS-18 score.

Conclusion: The results of this study suggest that the incorporation of SST into a psychiatric training program including basic training improved assertive communications skills, general communication skills, and social skills.

Key words: clinical residents, communication skills, social skills training, psychiatric training

Introduction

Excellent communication skills are essential in the practice of medicine.¹ It has been reported that good communication skills of medical professionals reduce the patients' psychological stress and improve their coping abilities.^{2,3} The ACGME (Accreditation Council for Graduate Medical Education) in the United States has defined communication skills as core competencies that medical professionals need to develop through training programs and evaluations.⁴ In Japan, the need for communication skills for medical professionals has also been discussed. The OSCE (Objective Structured Clinical Examination) was begun in Japan in 2002 to help medical students acquire the minimum required communication skills. Studies to determine an effective education program for medical interviews and communication have

been carried out. Consequently, reports focusing on the relationships among patients and medical professionals and their communication education were published.⁵⁻⁷ Methods to improve communication skills have been developed and evaluated. Role-playing was shown to be effective in improving the communication skills of clinical residents.⁸⁻¹⁰ It was also pointed out that receiving feedback on role playing is important in improving interviewing skills.^{11,12} Yutani et al. (2011)¹³ reported that communication skills, particularly, assertive communication skills (ACS) and cooperative communication skills (CCS), of the clinical residents were improved through psychiatric training. In addition, the use of social skills training (SST) for improving communication skills has been studied.^{14,15} SST, a type of cognitive behavior therapy, is a learning package of multiple treatment techniques such as role rehearsal and

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modeling, which consists of eight common elements.¹⁶ SST was shown to be effective in terms of the acquisition of skills (effect size: 0.77), learning content (effect size: 1.20), new skills (effect size: 0.52), and psychosocial functions (effect size: 0.52).^{17,18} Therefore, it is expected that the incorporation of SST into a psychiatric training program will lead to further improvement of clinical residents' interviewing skills. The aim of this study was to evaluate the effectiveness of SST included in a psychiatric training program including basic communication training for clinical residents using a self-evaluated questionnaire.

Methods

Subjects

The subjects were 99 clinical residents who participated in a psychiatric training program at Kitasato University East Hospital during the period from April 2006 to June 2007. The psychiatric training program was implemented in accordance with the new clinical residency program begun in 2003. Of the clinical residents, 44 participated in basic training (the BT group) from April to November 2006; the remaining 45 residents who participated in the training from December 2006 to June 2007 had SST in addition to basic training (the SST group). It should be noted that the present study is a non-randomized controlled trials. In terms of ethical considerations, the clinical residents were informed in writing that there would be no disadvantages if they did not give their consent to participate in the study and that their personal data would be strictly managed to ensure privacy protection. Informed consent was obtained from 99 residents, who were the subjects of this study. This study was conducted with the approval of the Ethics Committee of Kitasato University School of Medicine.

Psychiatric training with basic training

The duration of the psychiatric training was 2 months. First, the clinical residents learned basic psychiatric knowledge, and then, they learned the elements that affect communication through a 1-hour lecture and seminar. In addition, they performed role plays of three situations and received feedback at the beginning and end of the training. The three situations were those of having medical interviews, explaining medical conditions and treatments, and dealing with problems. Self-completed questionnaires about communication skills, depression, social skills, anxiety, and self-esteem were filled out at the beginning and end of the psychiatric training program. A detailed description of basic training is found in our

previous report.¹³

Psychiatric training with SST

The duration of the training for the SST group was 2 months, which is the same as that for the BT group. The SST group underwent SST in addition to the training given to the BT group. The situations dealt with in SST were chosen from practical situations that the clinical residents found difficult during the clinical training including psychiatric training. SST was performed in accordance with the basic training model proposed by Liberman¹⁹ as follows: 1. setting the situation for role plays, 2. performing the role plays, 3. providing positive feedback, 4. providing feedback for improvement, 5. performing the role plays on the basis of the feedback, and 6. providing positive feedback. Two to three sessions, about 1.5 hours each, were held in a closed group from the second week to the fifth or sixth week of the training program.

Contents of the questionnaire

Communication skills questionnaire²⁰

We developed the communication skills questionnaire (CSQ) for the easy evaluation of communication skills intended for use in social skills training. The reliability and appropriateness of the CSQ were previously reported.²⁰ The CSQ consists of three factors: general communication skills (GCS), CCS, and ACS. The GCS factor is composed of six items, including: "maintaining eye contact" and "using gestures." A five-grade evaluation scale is used for these items with, "cannot do," "rarely able to do," "occasionally able to do," "almost always able to do," and "always able to do," assigned 1 to 5 points, respectively. The CCS consists of 17 items, including: "using appropriate greetings," "asking questions," and "making requests." The ACSs consist of six items, including "requesting help" and "correcting a misunderstanding." A three-grade evaluation scale is used for the above two factors in six scenes, e.g., with a family member, best friend, friend, superior, acquaintance, and stranger, with "cannot do," "occasionally able to do," and "almost always able to do" assigned 0, 1, and 2 points, respectively. The score was tabulated for each item (on a scale of 0–12) and for each factor. The total communication skills score possible was 306, and the higher the total score, the higher the rating of communication skills. The CSQ can be used for both self-assessment and assessment by others; however, in the present study, it was only used for self-assessment.

*Kikuchi's Social Scale, 18-item version (KiSS-18)*²¹

Social skills were assessed using Kikuchi's Social Scale, 18-item version (KiSS-18). This defines social skills as "skills useful for maintaining good human relations."²¹ The KiSS-18 was designed on the basis of the classification of interpersonal skills by Goldstein et al.²²: 1. Elementary skills, 2. Advanced skills, 3. Emotion-processing skills, 4. Confrontation-avoidance skills, 5. Stress-handling skills, and 6. Planning skills. Each item is graded on a scale of 1 to 5 with a maximum score of 90 for the 18 items. Higher scores indicate a higher degree of social skills.

Result analyses

Of the 99 residents who gave their written consent to participate in this study, 65 residents completed the two questionnaires. Two residents had Beck Depression Inventory (BDI)-II^{23,24} scores of 40 or higher, which indicated severe depression; therefore, their results were excluded from the analyses because of the possibility that their depression could largely affect the changes in their communication skills. Therefore, there were 63 residents who participated as subjects in the analyses (BT group, 33; SST group, 30). Gender and age of subjects are shown in Table 1. Because the residents

described their gender and age themselves, that information is biased (Table 1). To determine the differences in pre- and post-training communication skills and social skills in the two groups, the paired t-test was conducted for each group. The changes (Δ) were calculated by subtracting the pre-training communication skills questionnaire (CSQ) scores of each resident from the post-training CSQ scores. Then, one-way analysis of variance (ANOVA) was conducted using changes for the SST and BT groups. SPSS for Windows 22.0 was used for statistical analyses.

Results

To determine the differences between the pre- and post-training CSQ scores, the paired t-test was conducted for both the BT and SST groups. In the BT group, the increase in the scores of CSQ ($t = 2.18$, $P < 0.05$, $d = 0.21$) and ACS ($t = 2.75$, $P < 0.01$, $d = 0.32$) was statistically significant. In the SST group, the scores of all variables increased with a small effect size. Statistically significant increases with a small effect size were observed particularly in the scores of ACS ($t = 2.19$, $P < 0.05$, $d = 0.38$) and KiSS-18 ($t = 2.06$, $P < 0.01$, $d = 0.29$). Furthermore, the changes in the score of GCS significantly

Table 1. The demographic data of participants

	BT (n = 33)			SST (n = 30)		
	Male	Female	No answer	Male	Female	No answer
Gender	16	10	7	9	8	13
Age (SD)	28.8 (6.4)	26.4 (1.3)		29.0 (4.7)	27.9 (3.8)	

Age data was only from the participants who described their demographic data in questionnaire.

Table 2. Change in scores of basic training groups

Variables	Pre-training		Post-training		P	d
	Mean	(95% CI)	Mean	(95% CI)		
CSQ	242.7	(230.1, 255.3)	250.4	(236.5, 264.3)	0.037*	0.21
CCS	170.2	(162.5, 177.9)	174.1	(165.4, 182.8)	0.091	0.17
ACS	49.7	(45.5, 54.0)	53.8	(49.0, 58.6)	0.10**	0.32
GCS	22.7	(21.4, 24.1)	22.5	(20.9, 24.2)	0.818	0.04
KISS18	60.6	(57.2, 64.1)	59.7	(56.2, 63.1)	0.497	0.10

* $P < 0.05$, ** $P < 0.01$

CSQ, communication skills questionnaire; CCS, cooperative communication skills in CSQ; ACS, assertive communication skills in CSQ; GCS, general communication skills in CSQ; KiSS18: Kikuchi's Scale of Social Skills: 18 items

increased with a medium effect size ($t = 1.71$, $P = 0.097$, $d = 0.45$). Next, to determine whether there were significant differences in the pre- and post-training communication skills and social skills between the SST and BT groups, using the changes (Δ), which were calculated by subtracting the scores in the pre-training questionnaire from those in the post-training questionnaire. As a result, there was a statistically significant difference with a medium effect size in the KiSS-18 score between the groups ($F = 4.89$, $P < 0.05$, $\eta^2 = 0.08$). There was also a marginal statistically significant difference in GCS score with a small effect size ($F = 2.84$, $P = 0.097$, $\eta^2 = 0.05$) (Table 3).

Discussion

Between the SST and BT groups, a statistically significant difference ($P < 0.05$, $\eta^2 = 0.08$) was observed in Δ KiSS-18 and a difference ($P < 0.10$, $\eta^2 = 0.05$) was observed in

Δ GCS, which was not statistically significant. η^2 is a parameter that demonstrates strength of association in ANOVA: $0.01 < \eta^2 < 0.06$ means small effect size, $0.06 < \eta^2 < 0.14$ means medium effect size, and $0.14 < \eta^2$ means large effect size.²⁶ These findings suggest the effectiveness of adding SST to BT in increasing the scores of social skills and GCSs.

GCSs are nonverbal communication skills such as making eye contact and using gestures.²⁰ GCSs are so basic that medical professionals have probably established their own communicative behavioral skills and patterns by the time they become clinical residents. Because there was a report suggesting that nonverbal skills, which are unconsciously used in daily life, were improved by SST,¹⁴ we considered that the process of receiving feedback and repeated SST would help clinical residents pay more attention to nonverbal communication skills, resulting in a weak improvement of GCSs in this study.

The finding that there was no significant difference

Table 3. Change in scores of Social Skills Training groups

Variables	Pre-training		Post-training		P	d
	Mean	(95% CI)	Mean	(95% CI)		
CSQ	26.1	(245.6, 266.6)	264	(255.1, 272.9)	0.111	0.29
CCS	175.7	(168.6, 182.8)	179.2	(173.4, 185.1)	0.269	0.21
ACS	54.4	(50.6, 58.2)	58.1	(54.6, 58.8)	0.37*	0.38
GCS	21.8	(18.9, 24.8)	24.6	(23.4, 25.7)	0.98	0.45
KISS18	62.4	(58.4, 66.0)	65.2	(61.4, 68.8)	0.006***	0.29

* $P < 0.05$, ** $P < 0.01$

CSQ, communication skills questionnaire; CCS, cooperative communication skills in CSQ; ACS, assertive communication skills in CSQ; GCS, general communication skills in CSQ; KiSS18: Kikuchi's Scale of Social Skills: 18 items

Table 4. Comparison of communication skills between basic training and social skills training groups

	BT (n = 33)		SST (n = 30)		F	P	η^2
	Mean	(95% CI)	Mean	(95% CI)			
Δ CSQ	7.7	(0.5, 14.9)	7.9	(-1.9, 17.7)	0.00	0.977	0.00
Δ CCS	3.9	(-0.7, 8.4)	3.6	(-2.9, 10.0)	0.01	0.935	0.00
Δ ACS	4.1	(1.1, 7.1)	3.7	(0.2, 7.2)	0.02	0.884	0.00
Δ GCS	-0.2	(-1.8, 1.4)	2.7	(-0.5, 6.0)	2.84	0.097	0.05
Δ KiSS18	-1.0	(-3.9, 1.9)	2.9	(0.9, 4.9)	4.89	0.031*	0.08

* $P < 0.05$

CSQ, communication skills questionnaire; CCS, cooperative communication skills in CSQ; ACS, assertive communication skills in CSQ; GCS, general communication skills in CSQ; KiSS18, Kikuchi's Scale of Social Skills: 18 items

between pre- and post-training GCS scores in the BT group showed that the improvement in nonverbal communication skills cannot be expected from basic training alone. Therefore, it is necessary to instruct clinical residents to pay more attention to nonverbal communication skills by incorporating SST into the training program so that they can repeatedly observe models and conscientiously practice nonverbal communication skills. Similarly, the KiSS-18 score increased in the SST group but did not in the BT group. It was, therefore, evidenced that SST affects the increase in the KiSS-18 score. Some social skills items in the KiSS-18 needed a combination of multiple skills in practice, such as "Can you carry on a seamless conversation with others?" and "If someone is angry, can you properly calm him or her down?" On the other hand, the CSQ consisted of simple items such as "greetings" and "starting a conversation." I.e., social skills were more complicated than communication skills evaluated using the CSQ and had much in common with the situations that are difficult to deal with such situations were role-played in SST sessions. SST has a cognitive effect to help improve a clinical resident's social skills and personal relationships.²⁵ Therefore, the significant increase in KiSS-18 score in the SST group seemed to indicate the beneficial effects of role-play practice.

On the other hand, a statistically significant increase in ACS score with a medium effect size was observed in both the BT and SST groups. Furthermore, a trend toward increases in the post-training scores of overall CSQ scores with a small effect size was observed in both the BT and SST groups. There were no statistically significant differences in effect size in the scores of CSQ, CCS, or ACS between the two groups. There was a report that communication skills were improved by psychological training²⁷; thus, it was considered that the lectures and seminars on communication skills, provided in the basic training in this study, also improved communication skills. The scores of overall CSQ and ACS seemed to be increased basically by the basic training.

However, few clinical residents in the SST group wished to role play a situation requiring CCS in the SST, which may be the reason there were no statistically significant differences in the CCS scores between the two groups. Moreover, as suggested by a report that the expression of sympathy was significantly weaker in the group practicing role plays than in the control group,²⁸ the methods of role plays and providing feedback may have affected the results. In addition, the framework of the SST was also applied to the feedback on the role plays before and after the basic training, in which the

clinical residents received positive feedback on the points that should be strengthened and are presented with improvement models as needed. This may have been related to the increases in ACS scores in both the BT and SST groups.

The results of this study showed that basic training is effective in improving communication skills, as indicated by the CSQ scores, particularly, the ACS scores, whereas SST is effective in improving ACS, GCS, and social skills. Namely, when the purpose of training is to improve the overall communication skills, it will be achieved by basic training including the comprehension of one's professional characteristics, lectures, role plays, and feedback. When the purpose of training is to improve GCS and social skills, SST, including repeated practice in handling situations difficult to deal with, is required in addition to basic training.

As some reports suggest that motivation and performance are enhanced when the learners have clear objectives,^{29,30} it was considered that having a clear objective of handling situations that are difficult to deal with enhanced the clinical residents' motivation to practice repeatedly, resulting in the effects of SST observed in the present study.

Because good doctors are said to pay attention to cognitive input, modeling, and the practice of key skills at the time of learning,³¹ conscious modeling and practice are required in action learning such as that for improving communication skills. In particular, situations that are difficult to deal with are burdensome to inexperienced clinical residents, and it is necessary for them to have the opportunity to practice the required communication skills repeatedly so as not to impair the doctor-patient relationship.

SST seems to be an effective learning tool, focusing on difficult situations and providing opportunities for clinical residents to observe models and to practice. Maguire and Pitceathly³¹ provided the following five essential conditions for effective teaching methods.³¹

1. Provide evidence of current deficiencies in communication, reasons for them, and the consequences for patients and doctors.
2. Offer an evidence base for the skills needed to overcome these deficiencies.
3. Demonstrate the skills to be learned and elicit reactions to them.
4. Provide an opportunity to practice the skills under controlled and safe conditions.
5. Give constructive feedback on performance and reflect on the reasons for any blocking behavior.³¹

In the present study, the first of the above five essential conditions is considered to have been carried out by role playing the scenes that clinical residents want to practice. In addition, the latter four conditions are also considered

to have been met by role playing and providing positive feedback. Improvement of what is realized by showing clinical residents a model of role playing a senior doctor if necessary, and by extended role playing on the basis of the feedback. In that respect, SST is suitable as an effective instruction method. Moreover, to improve basic communication skills such as nonverbal communication skills, repeated practice is required to change behavioral patterns that are already well established. After practicing such communication skills several times through SST, clinical residents should try to apply those skills in their daily clinical practice, which will require continuous guidance by their senior staff members. As previously described in the present study, the training for situations that are difficult to deal with in medical practice through SST was effective for clinical residents to acquire coping skills. Nonverbal communication skills were also improved through SST. In Japan, the training for medical communication skills after graduation has been left up to each hospital, and there is no standardized program for such training. It is feasible to provide a simple training program such as that used in this study in clinical practice. Considering the effects of such a training program, it seems necessary to establish a system for providing this type of training program whenever and wherever it may be required. In addition, communication skills have been known to generally affect mental health in terms of social adjustment, anxiety, and depression.³²⁻³⁵ Inoue et al.³⁶ reported that the communication ability of medical students affects their quality of life and mental health. Others reported that stress among medical professionals is related to their communication ability.³⁷ Yutani et al.¹³ reported that psychiatric training improves communication skills and leads to a feeling of self-efficacy, as well as prevents depression and reduces anxiety. Therefore, improving the skills for dealing with difficult situations through SST for a certain period during an educational program will be helpful for doctors to improve their ability to provide medical care, to reduce their stress, and to maintain their mental health. Clinical residents are more likely to be stressed when facing different situations that they are unaccustomed to dealing with in their clinical practice.³⁸ If SST is provided, it will prove helpful in reducing clinical residents' stress at such times. Further examination of these issues is warranted.

Limitations

One of the limitations of this study was the relatively small study population. Effect size was examined to compensate for the small number of subjects; however, results may be greatly affected by outliers. The results of

the 2 subjects with high BDI-II scores were excluded from the analysis in this study. To improve the results of robustness, as well as increase the number of samples, it will be necessary to implement a two-way ANOVA. Moreover, a report suggested that an unclear difference in communication skills 3 months after the training became significant in the follow-up 12 months after the training,²⁷ which made us consider that the clinical residents had not fully acquired the skills or could not sense that their skills had improved during the relatively short period of training in this study. Another report suggested that self-evaluation is less reliable than objective evaluation³⁹; therefore, further discussion on the evaluation methods, including objective evaluation, will be required. Furthermore, because overlearning and repetitive learning are required in SST, which is centered on role plays, it may be necessary to establish a training system for providing feedback on role plays throughout the entire training period.

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