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Table 1. Contents of the Program

| Topics | Contents |
|--------|----------|
| 1. Communication Model in Psychotherapy | Giving an explanation of the necessity of learning basic techniques for communication that will provide a foundation for providing supportive assistance. Giving an explanation of the fact that communication is the foundation of human relationships and gaining an overall understanding of communication. |
| 1.1 Necessity of Communication Skills (10 min) | Learning the basic communication model in which broad information is gathered from others and assessed, rapport is built, and then problem solving is undertaken. |
| 1.2 The Significance and Progression of Communication items (10 min) | Learning that by understanding the model, they will actually be able to put it into practice. |
| 2. Empathy and support that starts relationships | Understanding the principles of relationships and learning the factors for human relationships where there are no conflicts. Understanding that it is important to identify the emotions of the other person. Emotion identification training using the “emotion identification sheet.” |
| 2.1 Establishing Relationships where No Conflict Occurs (20 min) | Creating human relationships by communicating in a way where people listen to each other’s emotions and by giving them instructions using empathetic expressions. Concretely practicing examples of being forceful and examples of giving someone else instructions using the dialog sheet. |
| 2.2 Making the Relationship Work with Empathy (20 min) | Gaining an understanding of the purpose of the Socratic method as uncovering the unrealistic portions of the speaker’s thoughts or cognitions and then allowing them to notice the patterns and habits in their thinking. Questions are asked to deduce a specific answer, based on the five points used for devising questions, such as quantification, comparison, other points of view, evidence, and materialization. Thereafter, practice guiding another so that that person can discover the answer for themselves. |
| 3. Guiding problem-solving through questions | Gaining an understanding that it is necessary to intervene in problems that someone else has in order to step forward beyond the stage of relationship building. Learning the progression of guidance that allows a person to discover the answer to something that they want to solve on their own. This is done by presenting a plan for a solution to the problem. |
| 3.1 Defining Guided Discovery (20 min) | Gaining an understanding of the purpose of the Socratic method as uncovering the unrealistic portions of the speaker’s thoughts or cognitions and then allowing them to notice the patterns and habits in their thinking. Questions are asked to deduce a specific answer, based on the five points used for devising questions, such as quantification, comparison, other points of view, evidence, and materialization. Thereafter, practice guiding another so that that person can discover the answer for themselves. |
| 3.2 How to Use the Socratic Method (40 min) | |

Randomization

An independent researcher who had no direct contact with the participants used random computer-generated numbers to divide the participants into the two groups. The assessors were masked during analysis regardless of which group the participant was assigned to. The participants were aware of their assignment due to the nature of the intervention conducted.

Statistical Analysis

In a systematic review of the CST given to medical personnel, the effect size was taken to be a Cohen d of 0.37 [95% confidence interval (95% CI): 0.23 to 0.60]. From calculations assuming an effect size of 0.37, an α error of 0.05, and a β error of 0.20, we deduced that a sample size of 92 people per group would be necessary. The intervention effect was evaluated by investigating the significance of the interaction between group and time, using the mixed-effects models (group, time, and group × time interaction as fixed effects, and randomized participants as random effect). The effect size was investigated by comparing the difference in outcome score values (adjusted for baseline outcome value) of the two groups 1 month after intervention. To satisfy the intention-to-treat (ITT) principle, which states that all participants should be analyzed just as they were assigned, a multiple imputation method was employed to replace the missing outcome data on the assumption that the data could be considered to be missing at random.

The following items were investigated as baseline attributes: age, gender, consecutive years of service, job title (section chief or staff member), type of job, hours of overtime a month, average sleeping hours on weekdays, and the six-item Kessler psychological distress scale (K6) score. The K6 scale is widely used to assess psychological stress, with the score obtained from a simple self-rating questionnaire on symptoms of depression and anxiety experienced over the previous month. The reliability and validity of the
Japanese version of the K6 questionnaire utilized in this study have been verified. Work-related stress and job satisfaction were also investigated using a visual analog scale. When the data items were continuous variables, the t test was used for assessment, and Fisher exact test was used to assess the category variables. All tests used P value less than 0.05 as indicative of a significant difference. Statistical analyses were conducted using commercial software (SPSS Statistics 22 and SPSS Missing Values 22; IBM Corp, Armonk, NY).

RESULTS

Study Flow

Figure 1 shows the flow of the study. One of the 207 workers did not provide consent to participate in the research, as it did not work with their schedule. Excluding this person, all 206 people were randomly assigned into two groups, with 103 people each assigned to the control and intervention groups. Of the 103 people in the intervention group, 68 (66.0%) attended the group training and 81 (78.6%) responded to the questionnaire 1 month after the intervention. Of the 103 people in the control group, 80 people (77.7%) responded to the questionnaire 1 month after the intervention.

Baseline Characteristics

Baseline attributes of participants were based on questionnaire responses obtained from all participants (Table 2). There was no significant demographic difference observed between the two groups. A total of 44.6% of participants were male (44.6% in the intervention group and 44.6% in the control group) with an average age of 38.4 years (38.4 in the intervention group and 38.4 in the control group). No significant difference between the two groups was observed for any item assessing consecutive years of service, job title, type of job, number of overtime hours worked, and average sleep time. There was also no difference observed in K6 scores, work-related stress, job satisfaction, and the items “attitude of empathy and support,” “acceptance of others’ opinions,” “skillfully asking others about problems,” “thinking together to solve problems,” and “ability to communicate smoothly.”

Intervention Effects

The results of the intervention are summarized in Table 3. A significant interaction was observed between group and time for the item “thinking together to solve problems” ($F_{1, 171.2} = 5.82, P = 0.02$). The difference between the scores of both groups 1 month after training was 0.30 points, and the effect size (Cohen d) was 0.35 (95% CI, 0.07 to 0.62).

In contrast, a tendency toward significant improvement was observed for the intervention group with regard to “attitude of empathy and support,” “acceptance of others’ opinions,” “skillfully asking others about problems,” or “ability to communicate smoothly, with interactions between group and time having the respective values $F_{1, 166.7} = 2.92, P = 0.09$; $F_{1, 164.0} = 3.58, P = 0.06$; $F_{1, 172.5} = 3.77, P = 0.05$; and $F_{1, 164.5} = 3.72, P = 0.06$.

DISCUSSION

The results of this study indicate that a brief CST effectively improved communication behavior by helping workers to think together with others to solve problems and issues. The CST in the present study was not simply meant to foster communication skills that improve relationships with other people; rather, the purpose of this program is to promote communication behaviors to solve problems that arise in the workplace. Participants mainly work in jobs that require investigating solutions together with others to deal with many problems or issues. Thus, learning communication skills to solve problems meets the needs of the people who took the training course. It is possible that this made it easy for the effects of the training to be reflected as results. In addition, this training focused on three basic components of communication skills, making use of a concise program that could be understood step by step. For participatory training focused on role play, exercises contained content that is likely to be of interest to participants, such as those that occur in real workplaces. The training instructor in charge was occupational physician who...

![Figure 1](image-url)

FIGURE 1. Consort flowchart of participants.
knew workplace conditions well. This physician conducted their training using an easy-to-understand vocabulary. The participants were familiar with group discussions and were able to deepen their understanding of communication skills by engaging in a lively exchange of opinions. Despite the short-term nature of the training, results showing significant differences were produced.

Although there was a trend toward significant improvement observed for the four items “I am able to have an attitude of empathy and support,” “I am able to talk with others while accepting their opinions,” “I can skillfully ask others about problems and issues,” and “I am able to communicate smoothly,” no statistically significant difference between groups was shown. One possible reason for this is that the training time was too short to allow the participants to gain an adequate understanding of all content. Further, the percentage of people who underwent the training session was low, partially because it overlapped with a busy time at work.

A review of 13 articles on CSTs by Barth and Lannen provided to medical professionals working in oncology showed that training health professionals by CST is a promising approach to change communication. In a systematic review by McGilton et al., the CST intervention demonstrated a positive change in medical professionals’ communication behaviors, communication skills, and knowledge about communication. However, the CSTs used in medical settings required an intervention time period of several days to several weeks. Given this, the previous reviews have stated that further investigation based on economic considerations and feasibility is required.

### TABLE 2. Baseline Characteristics in the Intervention and Control Groups

|                          | Total (n = 206) | Intervention (n = 103) | Control (n = 103) | P*  |
|--------------------------|----------------|-----------------------|------------------|-----|
| Gender male, n (%)       | 92 (44.6)      | 46 (44.6)             | 46 (44.6)        | 1.00|
| Age average, years (SD)  | 32.0 (5.5)     | 32.2 (5.4)            | 31.7 (5.6)       | 0.58|
| Years employed in current work, n (%) | 24 (11.7) | 12 (11.7)              | 12 (11.7)        | 0.37|
| 1 ≤ x < 3               | 100 (48.5)     | 48 (46.6)             | 52 (50.5)        |     |
| 3 ≤ x < 5               | 55 (26.7)      | 33 (32.0)             | 22 (21.4)        |     |
| ≥ 5                     | 20 (9.7)       | 8 (7.8)               | 12 (11.7)        |     |
| Missing                  | 7 (3.4)        | 2 (1.9)               | 5 (4.9)          |     |
| Job title, n (%)         |                |                       |                  |     |
| Staff member             | 150 (72.8)     | 76 (73.8)             | 74 (71.8)        | 0.75|
| Section chief            | 36 (17.3)      | 27 (26.2)             | 9 (8.8)          |     |
| Number of subordinates, n (%) | 6 (2.9) | 1 (1.0)               | 5 (4.9)          | 0.33|
| 1 ≤ x < 3               | 10 (4.9)       | 7 (6.8)               | 3 (2.9)          |     |
| 3 ≤ x < 10              | 30 (14.6)      | 17 (16.5)             | 13 (12.6)        |     |
| ≥ 10                    | 10 (4.9)       | 2 (1.9)               | 8 (4.9)          |     |
| Missing                  | 0              | 0                    | 0                |     |
| Type of job, n (%)       |                |                       |                  |     |
| Office job               | 56 (27.2)      | 25 (24.3)             | 31 (30.1)        | 0.44|
| Technical job            | 28 (13.6)      | 14 (13.6)             | 14 (13.6)        |     |
| Development job          | 22 (10.7)      | 12 (11.7)             | 10 (9.7)         |     |
| Professional job         | 96 (46.6)      | 48 (46.6)             | 48 (46.6)        |     |
| Others                   | 3 (1.5)        | 3 (2.9)               | 0 (0.0)          |     |
| Missing                  | 1 (0.5)        | 1 (1.0)               | 0 (0.0)          |     |
| Hours of overtime a month, n (%) | 118 (57.3) | 57 (55.3)             | 61 (59.2)        | 0.21|
| <20                      | 70 (34.0)      | 39 (37.9)             | 31 (30.1)        |     |
| 20 ≤ x < 45              | 8 (3.9)        | 5 (4.9)               | 3 (2.9)          |     |
| 45 ≤ x < 80              | 3 (1.5)        | 0 (0.0)               | 3 (2.9)          |     |
| ≥80                      | 7 (3.4)        | 2 (1.9)               | 5 (4.9)          |     |
| Nighty hours of sleep on weekdays, n (%) | 0 (0.0) | 0 (0.0)               | 0 (0.0)          | 0.13|
| <4                       | 20 (9.7)       | 13 (12.6)             | 7 (6.8)          |     |
| 4 ≤ x < 5               | 83 (40.3)      | 48 (46.6)             | 35 (34.0)        |     |
| 5 ≤ x < 6               | 76 (36.9)      | 30 (29.1)             | 46 (44.7)        |     |
| 6 ≤ x < 7               | 16 (7.8)       | 8 (7.8)               | 8 (7.8)          |     |
| 7 ≤ x < 8               | 4 (1.9)        | 2 (1.9)               | 2 (1.9)          |     |
| ≥8                       | 7 (3.4)        | 2 (1.9)               | 5 (4.9)          |     |
| K6 score, mean (SD)      | 5.6 (4.7)      | 5.4 (4.5)             | 5.8 (4.8)        | 0.57|
| Work-related stress, mean (SD) | 4.4 (2.7) | 4.4 (2.6)             | 4.5 (2.7)        | 0.80|
| Job satisfaction, mean (SD) | 6.1 (2.6) | 5.9 (2.6)             | 6.2 (2.5)        | 0.44|
| Attitude of empathy and support, mean (SD) | 7.1 (1.8) | 7.1 (1.8)             | 7.2 (1.8)        | 0.55|
| Acceptance of the others’ opinions, mean (SD) | 7.1 (1.8) | 7.0 (1.7)             | 7.2 (1.8)        | 0.38|
| Skillfully asking others about problems, mean (SD) | 5.8 (1.8) | 5.7 (1.7)             | 5.9 (1.9)        | 0.34|
| Thinking together to solve problems, mean (SD) | 7.0 (1.8) | 6.9 (1.9)             | 7.1 (1.8)        | 0.42|
| Ability to communicate smoothly, mean (SD) | 6.6 (1.7) | 6.6 (1.7)             | 6.7 (1.7)        | 0.67|

SD, standard deviation.
*Independent t test for difference between groups for continuous measures and Fisher exact test for differences between groups in categorical characteristics.
1The six-item Kessler psychological distress scale.
2Evaluated using visual analogue scale from 0 to 10, with 0 indicating not at all, and 10 indicating very much.
3Scored on a scale 1 to 10, with 1 indicating not at all, and 10 indicating very well.
A characteristic of our study was that the CST program offered was brief and could be conducted by an occupational physician. Education in the workplace should be brief to minimize interruption and ensure provision to as many employees as possible. To enable implementation in a workplace setting and to reduce the economic and time constraints of employees, the program was simplified even more than previous studies in medical settings. On the contrary, concern for benefits compromised due to oversimplification is therefore justified. To counteract any detractions due to the simplicity of our program, we should have utilized homework or E-learning as supplemental materials.

The contents of the CST in the present study were based on the principles of CBT. CBT in medical settings to date has mainly involved high-intensity CBT centered on individual psychotherapy. However, in recent years, low-intensity CBT that employs the Internet, books, distributed materials, or the provision of information or education through group training has been shown to have an effect on reducing psychological distress\(^{26,27}\) and absenteeism due to mental illness.\(^{28,29}\) In addition, significant reductions in the level of depression have been indicated in randomized controlled trials (RCTs) that employed problem-solving methods. CBT emphasizes that the listener should create an empathetic and cooperative relationship to increase the subject’s ability to cope with problems by working on dysfunctional cognition.\(^{30}\) Repairing dysfunctional cognition might improve their flexibility regarding new ways of thinking and action, help them accept their role in a problem, find more solutions for the problem, and take action appropriate to a given situation.\(^{31,32}\) In this study, the components of CBT were proactively incorporated into the CST.

In observational studies, it has been suggested that the improvement of communication skills between workers and superiors could be related to an increase in work satisfaction and reduced work-related stress.\(^{33}\) In future studies, it will be necessary to examine the effects of a CST on increasing job satisfaction and work-related stress. Furthermore, the improvement of workers’ performance of duties is an extremely important topic for businesses. Cross-sectional studies examining the factors that determine an innovative workplace atmosphere identified a correlation between a better environment for communication and a more innovative workplace.\(^{6}\) Thus, improving workers’ communication skills could potentially contribute to improving worker performance and productivity.

As we have seen, effective communication has been shown to correlate with many key factors in the workplace. Therefore, our finding that a brief CST produced a recognizable improvement in workers’ communication behaviors is considered to be significant.

**Limitations**

The following are limitations of this study:

1. Outcomes were evaluated using a questionnaire of our design whose reliability and validity have not been assessed. This may have caused measurement bias. Although a communications skills questionnaire specifically for physician–patient communication has been verified for reliability and validity, a similar evaluation scale for general workers is not available. To evaluate the impact of CST training on health care professionals’ communication behaviors, video or audio recordings are mostly used in clinical settings.\(^{19}\) Information obtained by recording devices for both self-evaluation and evaluation by others has been used to assess the effect of CST training on communication behaviors.

2. The relevance of the results is not completely clear. We believe that our results, although their effect size was small, are important, because improvement of communication behaviors is suggested to be associated with reducing workers’ stress and increasing job satisfaction. However, we investigated changes in communication behaviors and not outcomes such as workers’ well-being, and were therefore unable to show whether the improvement in communication behavior by CST was associated with changes in workers’ well-being.

3. The time period in which the training was conducted overlapped with a busy period at work, such that the rate of participation in the training program was 66.0%. It is necessary to avoid busy periods and to create a plan to increase the number of training sessions available. This will make it easier for participants to attend.

4. There were instances where people in the intervention group and the control group both worked at the same workplace, so it is possible that there was some type of information exchange that took place.

5. The observational period was quite short, such that the long-term effects were not sufficiently verified. Due to time constraints imposed by workplace convenience, this study’s follow-up period was short-term. A study with a longer follow-up period is needed to confirm the effectiveness of CST in the workplace.

6. We conducted this CST without distinction between section chiefs and staff members. Although they work together and the management role of section chief is limited, some difference in the level of effects may have been detected due to differences between section chiefs and staff members in their need and responsibility to effectively communicate with others.

**CONCLUSION**

This study suggests that a simple CST program as part of work has the effect of improving communication behavior by helping workers to think together with others to solve problems and issues. It has been suggested that communication within the scope of one’s work relates to stress in the workplace and that the improvement of workplace communication through CST training could potentially lead to an increase in the level of mental health of workers.

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**TABLE 3. Comparison of Intervention and Control Groups at 1-Month Follow-Up**

|                        | Intervention Group (n = 103) | Control Group (n = 103) | Group × Time Interaction\(^{1}\) | Effect Size (95% CI)\(^{1}\) |
|------------------------|-------------------------------|-------------------------|-------------------------------|-----------------------------|
| Attitude of empathy and support | 7.2 (0.08)                   | 7.0 (0.08)              | 0.09                          | 0.25 (–0.03 to 0.52)         |
| Acceptance of the others’ opinions | 7.1 (0.07)              | 6.9 (0.08)              | 0.06                          | 0.24 (–0.03 to 0.52)         |
| Skillfully asking others about problems and issues | 6.0 (0.14)              | 5.8 (0.14)              | 0.05                          | 0.14 (–0.14 to 0.40)         |
| Thinking together to solve problems and issues | 7.1 (0.08)              | 6.8 (0.09)              | 0.02                          | 0.35 (0.07 to 0.62)          |
| Can communicate smoothly | 6.7 (0.11)                   | 6.5 (0.11)              | 0.06                          | 0.18 (–0.09 to 0.46)         |

CI, confidence interval; SE, standard error.

\(^{1}\) Adjusted for baseline score of each outcome.

\(^{2}\) Value assessed using linear mixed models, including group, time, and group x time as fixed factors; participants as a random factor.
workers and the level of work satisfaction. For these reasons, it is our hope that various RCTs for CSTs will be conducted for many more occupations and types of industries.

REFERENCES

1. Mizoue T, Takahashi H, Shizurai A, Kubota S, Mishima N, Nagata S. Relationships among self-management skills, communication with superiors, and mental health of employees in a Japanese worksite. Ind Health. 2003;41:335–337.
2. Shigemi J, Min Y, Tsuda T, Babazono A, Aoyama H. The relationship between job stress and mental health at work. Ind Health. 1997;35:29–35.
3. Ikegami K, Tagawa Y, Mafune K, Hiro H, Nagata S. Effectiveness of mental health training including active listening for managers. Sango Eiseigaku Zasshi. 2008;50:120–127.
4. Mineyama S, Tsutsunmi A, Takao S, Nishiuchi K, Kawakami N. Supervisors’ attitudes and skills for active listening with regard to working conditions and psychological stress reactions among subordinate workers. J Occup Health. 2007;49:81–87.
5. Kawakami N, Kobayashi Y, Takao S, Tsutsumi A. Effects of active listening training on supervisor support and psychological distress among workers: a randomized controlled trial. Prev Med. 2005;41:471–478.
6. Köhler T, Jansen C, Plath SC, et al. Communication, social capital and workplace health management as determinants of the innovative climate in German banks. Int J Public Health. 2010;55:561–570.
7. Parker SK, Astell CM, Turner N. Designing a safer workplace: importance of job autonomy, communication quality, and supportive supervisors. J Occup Health Psychol. 2001;6:211–228.
8. Yamagishi M1, Kobayashi T, Nagami M, Shimazu A, Kageyama T. Effect of web-based assertion training for stress management of Japanese nurses. J Nurs Manag. 2007;15:603–607.
9. Szmulowitz E, el-Jawhari A, Chiappetta L, Kamdar M, Bloch S. Improving residents’ end-of-life communication skills with a short retreat: a randomized controlled trial. Palliat Med J. 2010;13:439–452.
10. Amiel GE, Ungar L, Alperin M, Cohen R, Reis S. Ability of primary care physician’s to break bad news: a performance based assessment of an educational intervention. Patient Educ Couns. 2008;68:10–15.
11. Lienard A, Merckaert I, Libert Y, et al. Factors that influence cancer patient’ anxiety following a medical consultation: impact of a communication skills training programme for physicians. Psycho-oncology. 2008;17:488–496.
12. Alewani SM, Ahmed YA. Medical training for communication of bad news: a literature review. J Educ Health Promot. 2014;23:3–51.
13. Børslund E, Cvanacovra M, Moore SM, Ekstedt M, Rutland CM. Comparing effects in regular practice of e-communication and web-based self-management support among breast cancer patients: preliminary results from a randomized controlled trial. JMIR. 2014;16:e295.
14. Delvaux N, Razavi D, Marchal S, Brédaart A, Farvacques C, Slachmuylder JL. Effects of a 105 hours psychological training program on attitudes, communication skills and occupational stress in oncology: a randomised study. Br J Cancer. 2004;90:106–114.
15. Smith RC, Lyles JS, Mettler J, et al. The effectiveness of intensive training for residents in interviewing. A randomized, controlled study. Ann Intern Med. 1998;128:118–126.
16. Abdellah D, Kobra A, Tayyeb M. Assessing the effectiveness of interpersonal communication skills training on job satisfaction among nurses in Al-Zahra Hospital of Isfahan, Iran. Iran J Nurs Midwifery Res. 2012;17:290–295.
17. Langewitz WA, Eich P, Kiss A, Wössmer B. Improving communication skills a randomized controlled behaviorally oriented intervention study for residents in internal medicine. Psychosom Med. 1998;60:268–276.
18. Fawole OA, Dy SM, Renee F, et al. A systematic review of communication quality improvement interventions for patients with advanced and serious illness. J Gen Intern Med. 2013;28:570–577.
19. Barth J, Lannen P. Efficacy of communication skills training courses in oncology: a systematic review and meta-analysis. Ann Oncol. 2011;22:1030–1040.
20. Horkoshi M. The ABCs of Communication Skills. Tokyo: National Center of Neurology and Psychiatry; 2013:10–46.
21. Froyd-Purga M, Calero-Elvira A, Montaño-Fidalgo M. Study of the Socratic method during cognitive restructuring. Clin Psychol Psychother. 2011;18:110–123.
22. Donders A, van der Heijden G, Stijnen T, Moons K. Review: a gentle introduction to imputation of missing values. J Clin Epidemiol. 2006;59:1087–1091.
23. Kessler RC, Barker PR, Colpe LJ, et al. Screening for serious mental illness in the general population. Arch Gen Psychiatry. 2003;60:184–189.
24. Furukawa TA, Kawakami N, Saitoh M, et al. The performance of the Japanese version of the K6 and K10 in the World Mental Health Survey Japan. Int J Methods Psychiatr Res. 2008;17:152–158.
25. McGilton KS, Boscart V, Fox M, Sidani S, Rochon E, Sorin-Peters R. A systematic review of the effectiveness of communication interventions for health care providers caring for patients in residential care settings. Worldviews Evid Based Nurs. 2009;6:149–159.
26. Kimura R, Mori T, Takao S, Mineyama S, Nishiuchi K, Komatsu H, Kawakami N. Effect of a brief training program based on cognitive behavioral therapy in improving work performance: a randomized controlled trial. J Occup Health. 2010;52:169–178.
27. Mori T, Tajima M, Kimura R, et al. A web-based training program using cognitive behavioral therapy to alleviate psychological distress among employees: randomized controlled pilot trial. JMIR Res Protoc. 2014;3:e70.
28. Grime PR. Computerized cognitive behavioural therapy at work: a randomized controlled trial in employees with recent stress-related absenteeism. Occup Med. 2004;54:353–359.
29. Kraaiveld R, Schaafsma FG, Boot CR, Shaw WS, Builman M, Anema JR. Implementation of the Participatory Approach to increase supervisors’ self-efficacy in supporting employees at risk for sick leave; design of a randomised controlled trial. BMC Public Health. 2013;13:750.
30. David Daniel E, Dirk L, Leif B, et al. Efficacy of an internet-based problem-solving training for teachers: results of a randomized controlled trial. Scand J Work Environ Health. 2014;40:582–596.
31. Fresco DM, Rytwinski NK, Craighead LW. Explanatory flexibility and negative life events interact to predict depression symptoms. J Soc Clin Psychol. 2007;26:595–608.
32. Crowe M, Whitehead L, Carlyle D, et al. The process of change in Al-Zahra Hospital of Isfahan, Iran. J Occup Health. 2010;47:226–235.
33. Horikoshi M. The ABCs of Communication Skills. Tokyo: National Center of Neurology and Psychiatry; 2013:10–46.
34. Froyd-Purga M, Calero-Elvira A, Montaño-Fidalgo M. Study of the Socratic method during cognitive restructuring. Clin Psychol Psychother. 2011;18:110–123.
35. Ikegami K, Tahara H, Yamada T, Mafune K, Hiro H, Nagata S. Effects of a mental health training program for manufacturing company managers. J Occup Health. 2010;32:141–153.
36. Tsutsunmi A, Takao S, Mineyama S, Nishiuchi K, Komatsu H, Kawakami N. Effects of a supervisory education for positive mental health in the workplace: a quasi-experimental study. J Occup Health. 2005;47:226–235.