Motivational Interviewing Training Using Role Play in Dental Hygiene Students

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The purpose of this study was to develop a motivational interviewing (MI) training program to improve competency in communication and to effect the evaluated changes that would occur in dental students’ counseling techniques as result of the training in the program. The study proceeded through the program via role-play practice, which was explained effectively during the MI program training process. A convenience sample of 43 fourth-year dental hygiene students was recruited. Twenty-two students were randomly assigned to the intervention group and 21 to the control group in the order of recruitment. The theoretical lecture was delivered over 3 hours and the practice was done in parallel by applying cases occurring in clinic settings. The practice was technical training, partner practice, and small group practice. The intervention group received three hour MI lecture while the control group received no lecture. Evaluation through role-play practice was separated according to “researcher’s viewpoint,” “counselor’s role viewpoint,” and “patient’s role viewpoint.” The results of the analysis showed that the intervention group had higher MI skills and ability than the control group. Furthermore, program participants showed positive impressions to the MI training program. The use of coaching sessions improved the MI techniques and counseling skills of dental hygiene students learning MI. The effect of the application of the MI training program was that the MI training improved counseling skills and interviewing abilities. Moreover, continuous training and feedback enhanced MI techniques and core skills. Training using lectures in parallel with practice rather than education through theory alone improved students’ techniques. Application of role play through the combined method of the MI program was confirmed by an effective training method.

Key Words: Communication, Motivational interviewing, Role play

Introduction

According to the Report on the Basic Vocational Skills Standards Development by the Human Resources Development Service of Korea†, communication is manda-torily included as a basic vocational skill that is emphasized by the workspace. According to the National Skills Standard of the United States, the basic vocational skills include communication skills of reading, writing, listening, and speaking; the National Occupational Standard of the United Kingdom and the Australian Standard Framework also lists communication competence as a critical duty as one of its lower units.

In the dental industry, communication competence is an important skill used in increasing patient satisfaction and quality of care. The American Dental Hygienists Association‡ and the Commission on Dental Accreditation§ both emphasize effective communication in the standard competencies of dental hygienists, and propose to include communication education in their curricula.

In Korea, the National Competency Standard (NCS) was developed in 2002, and competency-based education is provided at higher education levels||. Recently, the dental hygiene industry has also introduced classes on communication, differing significantly from the subjects of dentistry or dental hygiene in an effort to cultivate competencies that can be used in the field. Ryu et al.¶ reported that Korean dental hygiene students have a strong...
need for communication classes; a study by Choi et al.\textsuperscript{5} presented the need for regular curricula to cover communication improvement within college education.

To obtain results on communication abilities, it is important to secure methods of acquiring knowledge and attitude in the cognitive and affective domains. Bazata et al.\textsuperscript{6} explained that health education that results in individual behavioral changes does not simply involve providing advice or recommendations. As such, studies have reported the effectiveness of patient-centric education systems to transfer knowledge on oral health management\textsuperscript{7-10}. Motivational interviewing (MI), receiving spotlight in the dental industries, is a counseling method that centers on the interviewee, and has been introduced as a method that utilizes multiple techniques to explore the inner mind of the interviewee and induce behavioral changes\textsuperscript{11}. From the early 2000s, MI was introduced to the dental industry, and has become an independent system since 2012\textsuperscript{12}. Rollnick et al.\textsuperscript{13} experimented with the application of a brief MI from the health aspects to be applied to the clinical field. While MI began to be explored in the context of addiction, its potential for dental applications were explored, and the United States now includes MI in the curricula and textbooks on dentistry\textsuperscript{14,15}. According to Koerber et al.\textsuperscript{7}, and Hinz\textsuperscript{16}, MI training intervention was found to be effective in advancing interview skills. Woelber et al.\textsuperscript{10} conducted MI training for 8 hours with dentistry college students and asked them to manage periodontal patients, and found that participants with MI training had higher interdental hygiene effects.

The training of the MI method must comprise not only lecture-style knowledge transfers, but also wide-ranging experiential opportunities to practice the techniques of interviews and attitudes of interviewers. According to Lane and Rollnick\textsuperscript{17}, maximizing the efficiency of MI education intervention required the coupling of theory lectures as well as experience of practice. Particularly, in the field of communication, training methods can include standardized patients and role-play; while the standardized patients training can recreate a real scenario, thus improving task skills, the two did not differ much\textsuperscript{17}. Moreover, given similar levels of effects, it was reported that it would be clinically more efficient to employ role-play, given its potential for reducing costs and easy applications. Therefore, role-play practice is often employed in clinical studies as it is easy to apply\textsuperscript{8,18}.

Given that there have been spotlights on the communication competency training, it is necessary to provide such training at the college level. As such, this study aimed to apply the principle of MI training on dental hygiene, without its application to any other models. Moreover, this study aimed to apply the MI training program for dental hygiene students to assess its effects.

\section*{Materials and Methods}

1. \textbf{Study subjects}

The subjects of this study were fourth-year college students from Namseoul University enrolled in faculties of dental hygiene. The rationale for selecting fourth-year college students was that they had completed 85\% of their major courses, and they had taken the communications class, enabling them to deal with patients in hypothetical scenarios. Out of a total of 45 students, 2 were excluded as they rescinded participation or were insincere in their participation, and thus 43 students participated from May through June 2016. This study was conducted with the approval of the Institutional Review Board of Namseoul University (approval no. NSU-160630-02). To ensure that

![Randomized allocation (n=43)]

\begin{itemize}
  \item Intervention group (n=22)
  \item Motivational interviewing lecture
  \item Role-play+evaluation
  \item Feedback
\end{itemize}

\begin{itemize}
  \item Control group (n=21)
  \item Role-play+evaluation
\end{itemize}

\textbf{Fig. 1. Overview of procedure.}
the control group did not have any disadvantages from participating in the study, the control group was provided with the same MI training education after the completion of the experiment.

2. Study process

This study was designed as a part of an MI training program for dental hygiene students, where the study was composed of a section that evaluated training effects (Fig. 1). A total of 43 participants were assigned into two groups in the order of their recruitment into the study. The researcher was blindfolded during the selection. The 22 individuals in the intervention group were provided with MI training from a trained researcher. After the intervention was completed, two types of role-play were conducted to evaluate its results. Twenty-one individuals in the control group carried out the two scenarios of role-play. After the completion of the role-play, an evaluation was conducted from the perspectives of the counselor and the patient. The role-plays of the participants were recorded on video, and the researcher conducted the evaluation based on the video recordings.

3. Training program

The MI training program is composed of a theoretical lecture, role-play, and feedback (Table 1). The intervention group underwent role-plays after the theoretical lecture, and the control group was provided with the same lecture after the role-play to ensure that they did not have any disadvantage from participating in the study. The theoretical lecture was conducted over 3 hours, and included practices that involved the application of clinical-setting cases. The practices were divided into technique practice, partner practice, and small-group practice, and the contents of the practices were appropriately selected. The lecture was conducted by the researcher, who is a dental hygienist with MI training. The lecture was delivered using PowerPoint presentations, and the students were provided with handouts. The contents of the theoretical lecture were based on contents compiled by Wilkins\textsuperscript{15}, and was composed of MI overview, practice, emotions of both sides, change conversation, maintenance, and

Table 1. Intervention Protocol for Motivational Interviewing (MI) Training Program

| Domain/contents                                      | Substance   | Time (h) |
|------------------------------------------------------|-------------|----------|
| MI lecture for dental hygienist                      |             | 3        |
| Definition of MI and brief MI                        | Lecture     |          |
| Elements of the “MI spirit”                          |             |          |
| Guiding principles                                   |             |          |
| Processes of MI                                      |             |          |
| MI implementation                                    | Lecture     |          |
| Information exchange                                 | Practice    |          |
| Agenda setting                                       |             |          |
| Core skills (OARS)                                   |             |          |
| Exploring ambivalence                                | Lecture     |          |
| Sustain talk & change talk                           | Practice    |          |
| Decisional balance                                   |             |          |
| Readiness ruler                                      |             |          |
| Eliciting and recognizing change talk                | Lecture     |          |
| Preparatory change talk                              | Practice    |          |
| Mobilizing change talk                               |             |          |
| Strengthening commitment                             | Lecture     |          |
| Interviewing training by role play                   |             | 2        |
| Situation 1. Parents to prevent caries in their young children | Role play  |          |
| Situation 2. Halitosis patients                      |             |          |
| Interviewing skill feedback                          | Feedback    | 2        |
| Self-evaluation of interviewing                      | Practice    |          |
| Debriefing in small group discussion learning        | Discussion  |          |
reinforcement. Definition of MI and brief MI focused on the explanations of the spirit, principle, and the process of MI. MI implementation included information to be exchanged during the MI process, eye contact, and core skills (OARS). Exploring ambivalence explained the change talk, maintenance talk, decision scale, and readiness scale. Eliciting and recognizing change talk explained the preparations and execution of change talk, and strengthening commitment explained reinforcement methods to maintain the change.

After the theoretical lecture was completed, role-play was conducted as a part of MI training practice to measure its effects. The role-play involved three-person teams, taking roles of the counselor, the patient, and the filmer. The first scenario of the role-play was the role of the parent of a young child at risk of cariogenicity, and the second scenario was a patient with bad breath. While the interview was conducted by individuals playing the roles of a counselor and a patient, the filmer filmed the video. The interview was kept within 10 minutes, and after the two interviews had ended for each, roles were changed, with a total of 6 interviews conducted. The role-plays took

Table 2. Brief Motivational Interviewing (MI) Training Measurement Tool

| Measures | Domain | Measure | Method |
|----------|--------|---------|--------|
| Researcher | Number of open-ended questions that counselor use of brief MI techniques | Count |
| | Set the agenda | Yes/No |
| | Assess importance of problem the patient | Yes/No |
| | Use the 10 point importance scale | Yes/No |
| | Assess confidence of patient in ability to resolve | Yes/No |
| | Use the 10 point confidence scale | Yes/No |
| Counselor | Patient is actively involved in the treatment | Count |
| | Number of questions asked by patient | Count |
| | Time and percentage time patient spent talking | Count |
| | Patient suggested ways to change | Count |
| Good counselor-patient rapport is established | Patients choice of good adjectives | Likert 5 |
| | Comfortable Interviewing | Likert 5 |
| | Perceived effectiveness of encouraging patient change | Likert 5 |
| | Interviewing as helpful to patient | Likert 5 |
| | Interviewing of affecting patient’s to resolve | Likert 5 |
| Good counselor-patient rapport is established | Would patient return to counselor? | Likert 5 |
| | Patient’s understanding of counselor point of view | Likert 5 |
| | Counselor’s understanding of patient point of view | Likert 5 |
| Counselor competence and interest in task | Counselor enjoyed the interview | Likert 5 |
| | Counselor says skill use the technique in future | Likert 5 |
| | Counselor feels confident and skilled in technique | Likert 5 |
| | Would counselor use to MI? | Likert 5 |
| Patient | Perceived effectiveness of encouraging patient change | Likert 5 |
| | Interviewing as helpful to patient | Likert 5 |
| | Interviewing of affecting patient’s to resolve | Likert 5 |
| Good counselor-patient rapport is established | Would patient return to counselor? | Likert 5 |
| | Patient’s feelings about interviewing | Likert 5 |
| | Patient’s understanding of counselor point of view | Likert 5 |
| | Counselor’s understanding of patient point of view | Likert 5 |
| Counselor competence and interest in task | Patient rated counselor as competent | Likert 5 |
Table 3. Motivational Interviewing (MI) Technique Evaluating Competency

| Variable                        | Intervention group (n=22) | Control group (n=21) | $\chi^2$ | p-value |
|---------------------------------|--------------------------|----------------------|---------|---------|
| Brief MI techniques             |                          |                      |         |         |
| Set the agenda                  | 21 (95.5)                | 21 (100)             | 39.093  | <0.001  |
| Assess importance               | 7 (31.8)                 | 0 (0)                | 49.442  | <0.001  |
| Use the 10 point importance scale | 5 (22.7)               | 0 (0)                | 58.930  | <0.001  |
| Assess confidence               | 15 (68.2)                | 0 (0)                | 19.581  | <0.001  |
| Use the 10 point confidence scale | 15 (68.2)              | 0 (0)                | 19.581  | <0.001  |

Values are presented as n (%).
3). The assessment items included “set the agenda,” “assess importance,” “use the 10-point importance scale,” “assess confidence,” and “use the 10-point confidence scale.” More than 95% of both the intervention group (95.5%) and the control group (100.0%) utilized the “set the agenda” skill. In the intervention group, 31.8% conducted the “assess importance” skill; 22.7% used the “Use the 10-point importance scale” skill; 68.2% used the “assess confidence” skill; and 68.2% used the “use the 10-point confidence scale” skill. The control group did not use any technique other than “set the agenda” and the differences between the two groups were statistically significant.

The researcher analyzed the evaluation of MI skills, and there were differences between the two groups in using open-ended questions, using brief MI techniques, and “patient suggested ways to change” among items of patient involvement and in rapport establishment (Table 4). The number of open-ended questions was higher in the intervention group (2.43±0.73) versus the control group (0.95±0.79), and there were statistically significant differences between the two groups. The detailed evaluation on the usage of brief MI skills by the individuals in the counselor role was quantified from 0 to 5 points,

### Table 4. Evaluation of the Interviewing Technique according to the Motivational Interviewing (MI) Training Program

| Variable                              | Intervention group (n=22) | Control group (n=21) | Z     | p-value |
|---------------------------------------|--------------------------|----------------------|-------|---------|
| Evaluation from researcher’s viewpoint |                          |                      |       |         |
| Number of open-ended question         | 2.43±0.73                | 0.95±0.79            | 2.065 | < 0.001 |
| Use of brief MI techniques            | 1.83±0.19                | 1.00±0.00            | 2.682 | < 0.001 |
| Patient involvement                   |                          |                      |       |         |
| Number of questions asked by patient | 1.63±1.71                | 1.41±0.86            | 0.851 | 0.463   |
| Percentage time patient spent talking | 81.27±35.03              | 69.95±26.84          | 0.873 | 0.432   |
| Patient suggested ways to change      | 0.86±0.64                | 0.19±0.29            | 1.632 | 0.010   |
| Rapport establishment                 |                          |                      |       |         |
| Patients choice of good adjectives    | 3.96±0.67                | 3.33±0.29            | 2.086 | < 0.001 |
| Comfortable interviewing              | 1.22±0.30                | 1.50±0.27            | 1.469 | 0.027   |
| Total of Rapport establishment        | 2.59±0.36                | 2.42±0.18            | 1.327 | 0.049   |

Values are presented as mean±standard deviation.

### Table 5. Communication Competency in the Assessment of the Counselor’s Role Viewpoint

| Variable                              | Intervention group (n=22) | Control group (n=21) | Z     | p-value |
|---------------------------------------|--------------------------|----------------------|-------|---------|
| Interviewing evaluation from counselor’s role viewpoint |                          |                      |       |         |
| Effectiveness of encouraging patient change |                          |                      |       |         |
| Interviewing as helpful to patient    | 3.93±0.42                | 3.14±0.45            | 2.214 | < 0.001 |
| Interviewing of affecting patient     | 3.93±0.39                | 3.14±0.55            | 2.058 | < 0.001 |
| Total of patient change               | 3.93±0.37                | 3.14±0.47            | 2.214 | < 0.001 |
| Rapport establishment                 |                          |                      |       |         |
| Re-interviewing intention             | 4.02±0.33                | 3.17±0.56            | 2.341 | < 0.001 |
| Patient’s understanding of counselor’s viewpoint | 4.02±0.19                | 3.12±0.47            | 2.817 | < 0.001 |
| Counselor’s understanding of patient’s viewpoint | 3.98±0.29                | 3.17±0.60            | 2.029 | 0.001   |
| Total of Rapport establishment        | 4.01±0.23                | 3.15±0.46            | 2.497 | < 0.001 |
| Counselor competence and interest     |                          |                      |       |         |
| Enjoyed the interview                 | 4.00±0.58                | 3.21±0.68            | 1.894 | 0.002   |
| Says skill use the technique          | 3.68±0.85                | 2.81±0.73            | 1.916 | 0.001   |
| Confident and skilled in technique    | 3.71±0.73                | 2.57±0.69            | 1.930 | 0.001   |
| Intention of use to motivational interviewing | 4.02±0.48                 | 3.05±0.67            | 2.207 | < 0.001 |
| Total of counselor competence         | 3.85±0.57                | 2.91±0.53            | 2.377 | < 0.001 |

Values are presented as mean±standard deviation.
measuring whether they had used a total of 5 skills, resulting in the final score of MI technique measurement. The results indicated that the intervention group (1.83±0.19) had a higher score than the control group (1.00±0.00), and these results were statistically significant. Among the sub-items of patient involvement evaluation, there were no statistically significant differences in “number of questions asked by patient” and “percentage time patient spent talking”; however, “patient suggested ways to change” was higher for the intervention group (0.86±0.64) versus the control group (0.19±0.29) with statistically significant differences. The rapport establishment between the individuals in counselor and patient roles was higher in the intervention group versus the control group, and the results were statistically significant.

2. Interviewing competency evaluated from the role-play perspective

The results were reviewed from the perspective of the counselor; the intervention group had higher competency scores than the control group and the results were statistically significant (Table 5). Details on encouraging patient change from the counselor perspective were composed of two factors of “Interviewing as helpful to patient” and “Interviewing of affecting patient”; in both factors, the intervention group (3.93±0.37) had higher scores than the control group (3.14±0.47) and the results were statistically significant. Details on the rapport establishment between the counselor and the patient were composed of “re-interviewing intention” (intervention group 4.02±0.33, control group 3.17±0.56), “patient’s understanding of counselor’s viewpoint” (intervention group 4.02±0.19, control group 3.12±0.47), and “counselor’s understanding of patient’s viewpoint” (intervention group 3.98±0.29, control group 3.17±0.60); overall rapport establishment was higher in the intervention group (4.01±0.23) versus the control group (3.15±0.46) with statistically significant differences. Details on the evaluation of counselor competence were divided into “enjoyed the interview” (intervention group 4.00±0.58, control group 3.21±0.68), “interviewing expertise” (intervention group 3.68±0.85, control group 2.81±0.73), “confidence in interviewing” (intervention group 3.71±0.73, control group 2.57±0.69), and the “intention to use MI” (intervention group 4.02±0.48, control group 3.05±0.67); overall, the counselor competence was higher in the intervention group (3.85±0.57) versus the control group (2.91±0.53) with statistically significant differences.

The evaluations from the patient role had higher scores for the intervention group versus the control group, and the results were statistically significant (Table 6). Details on encouraging change from the patient perspective were composed of “interviewing as helpful to patient” (intervention group 4.02±0.48, control group 3.05±0.57) and “interviewing of affecting patient” (intervention group 4.00±0.41, control group 2.88±0.47), and the overall effects

| Variable                                      | Intervention group (n=22) | Control group (n=21) | Z      | p-value |
|-----------------------------------------------|--------------------------|----------------------|--------|---------|
| Interviewing evaluation from patient’s role viewpoint |                          |                      |        |         |
| Effectiveness of encouraging patient change   |                          |                      |        |         |
| Interviewing as helpful to patient            | 4.05±0.48                | 3.05±0.57            | 2.192  | <0.001  |
| Interviewing of affecting patient             | 4.00±0.41                | 2.88±0.47            | 2.675  | <0.001  |
| Total of patient change                       | 4.02±0.43                | 2.96±0.44            | 2.519  | <0.001  |
| Rapport establishment                         |                          |                      |        |         |
| Re-interviewing intention                     | 4.14±0.49                | 3.10±0.37            | 2.675  | <0.001  |
| Enjoyed the interview                         | 3.98±0.52                | 2.89±0.50            | 2.512  | <0.001  |
| Patient’s understanding of counselor’s viewpoint | 4.14±0.52                | 3.21±0.44            | 2.363  | <0.001  |
| Counselor’s understanding of patient’s viewpoint | 4.16±0.47                | 3.17±0.48            | 2.512  | <0.001  |
| Total of Rapport establishment                | 4.10±0.46                | 3.09±0.34            | 2.824  | <0.001  |
| Counselor competence                          |                          |                      |        |         |
| Patient rated counselor as competent          | 4.14±0.49                | 2.86±0.42            | 2.675  | <0.001  |

Values are presented as mean±standard deviation.
of encouraging change was higher in the intervention group (4.02 ± 0.43) versus the control group (2.96 ± 0.44) with statistically significant differences. The evaluation of rapport establishment was higher in the intervention group (4.10 ± 0.46) than the control group (3.09 ± 0.34) with statistically significant differences. The factors included “re-interviewing intention” (intervention group 4.14 ± 0.49, control group 3.10 ± 0.37), “enjoyed the interview” (intervention group 3.98 ± 0.52, control group 2.89 ± 0.50), “patient’s understanding of counselor’s viewpoint” (intervention group 4.14 ± 0.52, control group 3.21 ± 0.44), and “counselor’s understanding of patient’s viewpoint” (intervention group 4.16 ± 0.47, control group 3.17 ± 0.48), and the intervention group had higher scores in all factors. To assess the competency of the counselor role, the satisfaction of techniques and attitudes of the counselor were measured; the results of the analysis indicated that the satisfaction was higher for the intervention group (4.14 ± 0.49) than the control group (2.86 ± 0.42) with statistically significant differences.

Discussion

This study has applied the MI theory to develop and apply an interview training program for dental hygiene students to evaluate the effectiveness of the program. The MI training program applied in this study is a program that reflects key theories based on basic MI principles, and was developed by collecting new strategies. The results of existing studies, recommending that communication and interview programs should be coupled with theory lectures and practice for effectiveness5,17,19-21, support the strategy of this study. As such, this study has provided a number of cases as an indirect practice, and included methods of 2-person group partner practice and 3-person small group discussion and role-play as strategies. Simulation learning has the advantage of recreating real-life scenarios resembling clinical situations in a safe environment, thus increasing the task skills. Moreover, in the field of communication, standardized patients and role-play are used to assume certain situations for learning purposes; the application of immediate, simulated field practice right after theory learning is known to be effective20. Lane and Rollnick17 and Rollnick et al.13, who organized and reported on literature covering standardized patients and role-play, mentioned that standardized patients and role-play that create hypothetical situations are effective for the improvement in communication competency, and recommended role-play to supplement the limitations of time in practices using standardized patients. As such, the situations created by role-play in this study have been formed to fit the specific situations in Korea by referring to cases covering patient strategies for motivation enhancement, and role-play training was based on scenarios that are commonly faced in dental clinics and hospitals. The content of the program covered the brief MI strategy based on the basic principles of MI, which could be easily used in the clinical field. Rollnick et al.13 reported on the need for a strategy that included 5- to 15-minute focused interviews, as patients have a unique level of readiness for change and may respond sensitively. Particularly, patients visiting dental hospitals or clinics tend to visit for the purposes of treatment, rather than of behavioral change, unlike patients visiting other medical facilities. As the goal sought by the patient is firm, it is realistically impossible to conduct counseling for a period of over 50 minutes. Therefore, this study had also set an interview situation through short sessions, thus sessions could be used in clinical settings as well as resolve the objective of the patient. While role-play is heavily influential in communication education, there are no systematic factors or methods in evaluating standardized patient or role-play practices17. Therefore, it appeared necessary to develop tools that could be used by the learners and educators in communication practice.

To evaluate the effectiveness of the MI training program, 43 study participants were recruited. The participants were fourth-year college students enrolled in the dental hygiene department at a college in Cheonan, and they were randomly assigned to the intervention group and control group depending on the order of their recruitment. This study assessed communication competence after the implementation of the program; the intervention group with education had higher scores in MI skills and competence. In the MI training technique competency, both groups had a high ratio of employing
the “set the agenda” skill, with no differences between groups. The reason why this skill was widely employed appears to be due to the fact that participants are in their fourth year of dental hygiene, having taken classes in communication and public health, which made it easier for them to employ the skill. The extent of using “open-ended questions,” “brief MI techniques,” as well as “patient suggested ways to change” and “rapport establishment” was higher in the intervention group with education, and they also had higher scores than the control group in competency evaluations of counselor and patient roles. These results were in line with studies by Spollen et al.\(^8\), applying the MI program to medical students, and Koerber et al.\(^7\), applying the program to students in dentistry, both reporting that intervention groups showed higher competence. This study has confirmed the need for efforts such as interview education and program participation to raise communication competence, supported by studies reporting positive results of program intervention.

The principle of inducing behavioral change by increasing the percentage of change talks has been emphasized in MI; Croffoot et al.\(^22\), who also reported better results in behavioral commitment and inducing change talks in dental hygiene students with MI training. Their results are similar to those of this study, as the intervention group was found to induce more ways to change for the patient, as well as to ask more open-ended questions. DeBate et al.\(^23\) confirmed the improvements in knowledge, techniques, and self-efficacy through a MI training workshop for college students in dentistry and dental hygiene; Choi et al.\(^5\) reported that college students who have learned communication embrace it as a basic vocational skill and attitude that can improve their career and professionalism. Thus, one is able to conclude that one-time interview education and training aids in improving communication competence, and ongoing training as well as expert and peer feedback would help to gradually increase such competence, while unseen. The application of NCS in college systems has led to the need for varying curricula such as communication, patient management and psychology in dental hygiene, similar to other educational programs for national certifications.

This study has several limitations. Given the lack in the nature of related fields and the realistic differences between the clinical situations and educational institutions, the MI training program utilized in this study would not present long-term educational effects. This should be supplemented by future studies on the effects of MI training as well as varying methods of education. Moreover, this study has utilized measurement tools that involve the self-evaluation by participants and analysis by the researcher. This may be influenced by subjective opinions. Therefore, it is necessary to develop a measurement tool that can be applied in the clinical situation in the field of MI.

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