Determining the Effectiveness of Online Communication Training in Nursing Students with the Sequential Mixed Method: An Example of Perinatal Patient Safety

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ABSTRACT

Objective: The study aimed to evaluate the effectiveness of online communication training in maintaining perinatal patient safety for nursing students.

Methods: The type of the study is mixed method. Nursing students were recruited and randomly divided into intervention and control groups. The intervention group participated in the communication course, which contained a theoretical course, video demonstrations and discussions of effective and ineffective communication processes, and standardized participant practices. In total, 40 nursing students completed the training. The control group consisted of 39 students. Data were collected through a semi-structured questionnaire, an effective communication skill checklist, self-assessment of effective communication skill checklist, and a semi-structured focus group interview. The t-test was used to evaluate differences between the 2 groups before and after the course.

Results: After the training, the intervention group had significantly higher communication skill scores compared to the control group. Further, students in the intervention group reported higher self-evaluation of effective communication skill scores. Three themes were obtained from focus group interviews: influence on awareness and self-confidence, learning through practice, and an effective communication framework.

Conclusion: The communication training significantly improved the communication skills of nursing students.

Keywords: Communication, mixed methods, nursing, perinatology, training

Introduction

The perinatal period is a risky period for the mother/pregnant woman and newborn/fetus.1 Although pregnancy, birth, and the postpartum period in the perinatal period are physiological processes, undesirable events can develop suddenly and rapidly, possibly threatening the health of the mother/pregnant woman and newborn/fetus,2,3 which makes perinatal patient safety an important issue.4 Perinatal patient safety, an integral aspect of patient safety, includes the period from the 20th week of pregnancy to the seventh postpartum day. The Maternal Mortality Review Committees in the United States have estimated that 63% of pregnancy-related deaths are preventable. The most basic reason for care is communication, and the lack of communication between care providers is one of the prominent themes.5 In 2014, the Joint Commission International indicated “improving effective communication” as one of the international patient safety targets and priority areas to encourage improvements in patient safety.6

Nurses play an important role in ensuring effective communication.7 The World Health Organization recommends that health-care students receive effective communication education.8 Although students are taught these skills during their basic education, they have limitations, as studies still report communication-related problems in practice.9,10

This study is a doctor of philosophy thesis of Sevda Yıldırım, and Çiğdem Yücel Özçırpan and Sergül Duygulu are the advisors.

The data obtained from this study were presented as an oral presentation at the Eighth International Nursing Management Conference, which was held in Istanbul, Turkey, October 27-29, 2022, and it received the first prize for the presented abstract.
The communication-related problems in practice may be due to insufficient training. Nurse educators should provide experience where students can achieve effective communication skills before entering the workforce.11 Nursing undergraduate programs should include effective communication skill courses.12 In order to develop knowledge, skills, and attitudes in nursing education, courses should be prepared to include active learning methods.13 Active learning methods such as standardized participants (SPs),14 role-play,15 video-simulation case scenarios16 are recommended in the development of communication skills. Active learning methods prioritize the student’s critical thinking and decision-making skills by placing them at the forefront of the learning process. Nurse educators can benefit from the development of an innovative curriculum for undergraduate nursing students to gain effective communication skills before graduation.

The present study aimed to evaluate the effectiveness of online communication training in maintaining perinatal patient safety for nursing students.

The following hypotheses and research questions were addressed:

After the training,

H1: Effective communication skill scores in the intervention group are higher than that in the control group.

H2: Self-assessment of effective communication skill scores in the intervention group are higher than that in the control group.

In the qualitative part of the study, the following question was answered through focus group interviews: How do nursing students evaluate this training?

**Methods**

**Design**

This study used a mixed-methods sequential explanatory design with a randomized controlled parallel pre–post test design and a descriptive qualitative design by analyzing students’ training evaluation. The Consolidated Standards of Reporting Trials17 was used for reporting the randomized controlled part of the study, and The Consolidated Criteria for Reporting Qualitative Research checklist18 was used for the qualitative part of the study.

**Setting and Participants**

The participants were fourth-year nursing students enrolled in the faculty of nursing at a university in Ankara, Turkey, in the academic year 2021-2022. Convenience sampling was used to recruit a sample of the fourth-year nursing students. Inclusion and exclusion criteria were presented in Table 1. All fourth-year nursing students successfully completed the Obstetrics and Gynecology Nursing course and they constituted the study population. For this reason, failure in theory or practice was not identified as an inclusion/exclusion criterion. The G-power program was used to determine the sample size of the study. By conducting a one-tailed test with a significance level of 0.05, an effect size of 0.6, a power of 0.80, and a dropout rate of 10%,19 the required sample size was estimated as 80 students, with 40 in each group. All fourth-year nursing students (N = 160) were invited to participate in the research via email using the flyer. Of them, 80 (50%) refused to participate. As a result, 80 students were available for random allocation. One participant withdrew from the study due to health issues and was excluded after the pretest (Figure 1). The study was conducted with 79 students.

**Randomization**

The students were assigned sequential numbers according to the order of their participation in the study by the researcher. A sample of 80 students was distributed into parallel randomized groups (with 40 participants in each group). A computer-generated randomization list was used to assign the students to one of the 2 groups by an experienced statistician who did not participate in the study. The scores obtained from the pretest were used to assign the students to their respective groups.

The sample of the qualitative part of the study consisted of 24 students who were selected using the purposeful sampling methods. All participants in the intervention group were eligible for interviews and were sent an email inviting them to participate in the focus group interviews. The sample size was determined by conducting focus group interviews with nursing students until no new themes emerged. We performed four 40-minute focus group interviews, with 6 participants per focus group20 (Figure 1).

**Blinding**

An independent researcher watched and evaluated the video recordings of the students’ practices. The independent researcher and the statistician were unaware of which student was in which group.

**Data Collection Tools**

**A Semi-Structured Questionnaire**

This form was developed by the researchers. It contained questions about the socio-demographic characteristics, including age, sex, and scenario-based practice experiences.

**Effective Communication Skill Checklist**

The students’ effective communication skills were assessed using the Effective Communication Skill Checklist consisting of 11 items. The checklist was developed through need analysis. The usability of the forms was evaluated by a preliminary study. The skill level of the student was evaluated as “did not show the behavior = 0 point,” “indicated/insufficiently showed = 1 points,” and “displayed the behavior = 2 points.” The higher the score, the higher the effective

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**Table 1. Inclusion and Exclusion Criteria**

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized controlled parallel pre–post test design</td>
<td>Not participating in the entire course</td>
</tr>
<tr>
<td>• Being a fourth-year student</td>
<td>• Not having filled out all the data collection tools</td>
</tr>
<tr>
<td>• Owning/having access to a computer</td>
<td>• Wanting to leave the course at any stage</td>
</tr>
<tr>
<td>• Having internet access</td>
<td>•</td>
</tr>
<tr>
<td>• Voluntarily participating in the study</td>
<td>•</td>
</tr>
<tr>
<td>Descriptive qualitative design</td>
<td>Wanting to leave the study at any stage</td>
</tr>
<tr>
<td>• Participating in the entire communication course</td>
<td>•</td>
</tr>
<tr>
<td>• Voluntarily participating in the study</td>
<td>•</td>
</tr>
</tbody>
</table>
communication skills. Internal reliability of the Effective Communication Skill Checklist was assessed using the Cronbach’s alpha to determine its internal consistency, with 0.25 and an alpha ≥ .70 being considered acceptable. Cronbach’s alpha value was found to be 0.75. The opinions of 7 experts were considered for content validity. Davis’ technique was used to calculate the content validity index (CVI). An overall score of at least 0.80 was considered acceptable. CVI value of all items on the checklist was calculated to be above 0.80.

Self-Assessment of Effective Communication Skill Checklist
The Self-assessment of Effective Communication Skill Checklist was used for the students to self-evaluate their effective communication skills before and after the training. The checklist was developed through need analysis. The usability of the forms was evaluated by a preliminary study. It was prepared as a 3-point Likert-type form (“1 = Disagree,” “2 = Indecisive,” and “3 = Agree”) and included 11 items. The higher the score, the higher the students’ self evaluated effective communication skills. Cronbach’s alpha value was found to be .76. The opinions of 7 experts were considered, and the CVI value of all checklist items was calculated to be above .80.

Semi-Structured Focus Group Interview Form
The forms were developed by the researchers and finalized by considering the opinions of 7 experts to evaluate the clarity and operability of the data. For the preliminary study, the form’s usability was evaluated, and 4 fourth-grade students participated. The interviews were based on 3 main questions: “What did you think about the communication training?” “What was your experience with the communication training?” and “What did you think about the LISTEN®ME communication framework?”

Protocol of the Communication Training
The research protocol was implemented using the analysis, design, development, implementation, and evaluation (ADDIE) model (Figure 2).

Figure 1. Participant recruitment and flow chart.
Stage 1: Analysis
Literature review, real-world observation in the delivery room and obstetrics services, in-depth individual interviews with nurses and physicians, and case analysis with nurses were conducted to analyze the needs for the communication training (Figure 3). The data obtained were analyzed considering the communication framework available in the literature; accordingly, the LISTEN\textsuperscript{2}ME communication framework (Table 2) was created for the perinatal area.

Stage 2: Design
Based on the LISTEN\textsuperscript{2}ME communication framework (Table 2), content and format of the communication training were determined. The goals and objectives of the communication training, teaching methods and techniques, and evaluation methods were created.

The communication training was designed by incorporating a theoretical part and SPs (individuals trained to simulate people working as a nurse or physician) interviews. The theoretical part of the training program contained theoretical education and sample video display.

Six scenarios on preeclampsia, postpartum hemorrhage, abruptio placentae, and high-risk labor were prepared by the research team. In the preparation of the scenarios, the most important causes of mother/pregnant woman and newborn/fetus mortality and urgent issues where communication becomes more critical were taken into account. Two of these scenarios (preeclampsia and postpartum hemorrhage) were used in the pre- and post-tests, 2 (preeclampsia and abruptio placentae) were used in SP interviews, and 2 (preeclampsia and high-risk labor) were used in the 4 sample video displays. Sample videos were prepared to demonstrate the communication process between nurses and between the nurse and physician (both effective and ineffective). Sample video analysis questions were prepared. The individuals portraying nurses and physicians in the sample videos were actually lecturers who specialize in perinatology. A guide for debriefing the SP interview session has been prepared.

The opinions of 7 experts were considered to evaluate the training content, materials, scenarios, and assessment/evaluation tools. To assess the usability and operability of the scenarios and assessment/evaluation tools, a preliminary study was conducted with 5 fourth-year nursing students from a different university. The students who participated in the preliminary study were excluded from the research sample.

Standardized participants’ trainings were conducted according to The Association of Standardized Patient Educators Standards of Best Practice.\textsuperscript{30} In this study, 2 SPs took part in the roles of nurse and physician. A face-to-face interview was held with 2 SPs 1 week before the...
pretest. Information was given about the prepared scenarios and expectations, and SP instructions for each scenario were provided. Sample videos were shown and analyzed together, and feedback was given by rehearsing the scenarios twice. Two days before the pretest, another meeting was held with the SPs over the Zoom platform, and rehearsals were done again.

The “generate a random number” formula in the Excel program determined the rotation for student participation in the pretests and posttests. Students were invited to participate in the research via email using the flyer. An online meeting about the research was held, and the contact information and written consent were obtained from the students willing to participate in the study. A WhatsApp group was created to maintain active communication with the students.

Stage 3: Development
The training content, materials used, and assessment/evaluation tools were reviewed according to the opinions of 7 experts, and necessary corrections were made before finalizing. Additionally, suitable adjustments were implemented based on the preliminary study. Permission was obtained from the distance education center of the university for the online communication training. The students accepted in the research were included in the “Effective Communication” training defined on the Moodle system account of the university. Moodle is an e-learning platform that utilizes information and communication technologies to develop effective educational programs. The platform enables students to access educational documents by logging in. The entire developed content was uploaded on Moodle. However, since the students in the control group should not see the training content, the content of the training was kept confidential at the beginning of the training.

Stage 4: Implementation
**First week (pretest):** The semi-structured questionnaire link created via Google Forms was shared on Moodle. After completing the semi-structured questionnaire, a pretest was conducted. Within the scope of the pretest, the students’ skills in effectively communicating with healthcare professionals who acted as a nurse and doctor in the perinatology clinics were recorded during the SP interviews, and it was assessed by an independent researcher using the “Effective Communication Skill Checklist.” In the pretest, students handed over a patient using a scenario with the SP interviews who acted as a nurse. Using a different scenario, they contacted the physician with the SP interviews. The students were informed beforehand about the video recording and their roles. Each SP interview comprised the prebriefed session for 5 minute, and each interview, including the physician and the nurse, took an average of 10 minute. No debriefing session was held after the SP interviews in the pretest. After the pretest, the Self-assessment of Effective Communication Skill Checklist link created via Google Forms was shared on Moodle, and the students were asked to fill out the “Self-Assessment of Effective Communication Skill Checklist.” Then, students were randomly assigned to the intervention and control groups by analyzing the data obtained in the pretest. In order for the students in the control group not to access the documents during the training, the students in the control group were inactive on the Moodle system. Another WhatsApp group was created to maintain active communication with the students in the intervention group.

**Second week:** The intervention group had access to the content of the training on the Moodle system. They were given 1 week to read presentations and watch the sample videos before the training.

**Third week:** Students underwent a 2-hour communication training comprising a single session. Four sample videos were discussed in line with the video analysis questions.

**Fourth week:** The students in the intervention group, with 2 students in each session, participated in the SP interviews, as in the pretest. This practice aimed to ensure that students learned from each other’s experiences, in which 1 student performed the SP interviews and the other observed. After both students finished the interviews, 2 students were taken to the debriefing session.
Fifth week (posttest): All students participated in the posttest after completing the communication training, as in the pretest. Students' skills in effectively communicating with health-care professionals were assessed by an independent researcher using the "Effective Communication Skill Checklist." After the posttest, the students were asked to fill out the "Self-Assessment of Effective Communication Skill Checklist." The pretest and posttest utilized identical data collection tools. After the posttest, the students in the control group also underwent communication training.

Focus group interviews: Participants in focus groups received a guide with interview process details and questions. Four focus group interviews were conducted with 24 students, with 6 in each group. We performed four 40-minute focus group interviews. Focus group interviews were conducted over the Zoom platform. Visual recording was used to collect the data. No other person was present during the interviews besides the interviewer and the participants. There were no repeated interviews. Field notes were made after the interviews.

Stage 5: Evaluation
We performed formative evaluations and asked 7 nursing department experts to evaluate the training's construct and contents, materials used, and assessment/evaluation tools. After the training, we performed 2 summative evaluations for effectiveness and students' views.

Analysis
Quantitative data were analyzed using the Statistical Package for Social Sciences version 23.0 software (IBM Corp.; Armonk, NY, USA). The participants' general characteristics, effective communication skills, and self-assessment effective communication skill scores were analyzed using frequency, percentage, mean, and standard deviation. The pre-homogeneity test between the groups was performed using the independent t-test and χ²-test. Differences in effective communication skills and self-assessment effective communication skill scores between the groups were analyzed using t-tests. Because 1 student withdrew from the training, the data were analyzed using per-protocol and ITT analyses. The results were statistically similar and were presented as per-protocol analysis results. Statistical significance was set at a P-value of <.05.

The interview recordings were transcribed verbatim by the researcher, and in the analysis, a 7-step thematic analysis53 (Table 3) approach was used. Analyses, themes, and sub-themes were determined in consensus by the researchers. We ensured the study's trustworthiness by applying the principles of credibility, dependability, confirmability, and transferability52 (Table 4).

Ethical Considerations
The study was approved by the Hacettepe University Ethics Board for Noninterventional Clinical Studies (Approval no: 16969557-715 Date: April 2, 2019). Written informed consent was obtained from the nurses, physicians, and nursing students. The study was conducted according to the Declaration of Helsinki (1964) and its later amendments.

Results
Participant Characteristics
Table 5 displays the general characteristics and pre-homogeneity results of the groups. Differences in the groups in any variable were not statistically significant (P > .05).

Quantitative Results
There were no statistically significant differences in the scores for the pretest effective communication skills with the nurse (P = .65), effective communication skills with the physician (P = .53), and self-assessment of effective communication skills (P = .97). After the training, the effective communication skills with the nurse and physician, and self-assessment of effective communication skill scores of the

Table 4. Rigor and Reflexivity

<table>
<thead>
<tr>
<th>Rigor</th>
<th>Procedure</th>
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<tbody>
<tr>
<td>Credibility</td>
<td>Credibility was ensured by checks by members at the end of the focus group interviews to correctly present the students' opinions.</td>
</tr>
<tr>
<td>Dependability</td>
<td>To ensure dependability, the authors have provided a comprehensive research design, as well as the participants and subjects involved.</td>
</tr>
<tr>
<td>Confirmability</td>
<td>For confirmability, all the researchers involved in the research agreed on the themes and codes by stating their opinions on the data.</td>
</tr>
<tr>
<td>Transferability</td>
<td>Detailed explanations of the research context, participants' backgrounds, and study results were explicitly provided to allow other researchers to transfer the findings to their context and settings to achieve transferability.</td>
</tr>
</tbody>
</table>

Reflexivity
- The research team comprised 3 academicians with experience and expertise in nursing.
- The researcher SY, who is female and a research assistant at a university in the department of obstetrics and gynecology, conducted all the interviews.
- She was not related to any of the participants and had no direct influence on the study settings and results.
- The students study at the same school, but there are no lesson learned from the interviewer.
- Participants know that the interviewer works as a research assistant in the department of obstetrics and gynecology nursing at the same university.
- All researchers were trained in qualitative research methods and experienced in conducting research.

Table 3. Thematic Analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Familiarization</td>
<td>The researchers independently and repeatedly read the transcripts of all 24 participants, and the content was checked with the research team members.</td>
</tr>
<tr>
<td>2. Identifying significant statements</td>
<td>Student thoughts on communication education were summarized by extracting codes and repeating significant statements.</td>
</tr>
<tr>
<td>3. Formulating meanings</td>
<td>The 3 researchers encoded important statements of the students.</td>
</tr>
<tr>
<td>4. Clustering themes</td>
<td>Connections between the categories were identified, and meaningful statements were categorized.</td>
</tr>
<tr>
<td>5. Developing an exhaustive description</td>
<td>Categories obtained from similar codes and meaningful statements were grouped into themes.</td>
</tr>
<tr>
<td>6. Producing the fundamental structure</td>
<td>Participants' thoughts and experiences were summarized and described in detail, corroborated by field notes.</td>
</tr>
<tr>
<td>7. Seeking verification of the fundamental structure</td>
<td>Transcripts were reviewed by 5 participants for confirmation, but no new data were obtained. Anonymized transcripts were saved on a password-protected computer to ensure privacy and protect participants' identities.</td>
</tr>
</tbody>
</table>
intervention group were significantly higher compared to the control group \( (P < .001) \) (Table 6). Thus, the first and second hypotheses were accepted.

**Qualitative Results**

Three themes obtained from the analysis were as follows:

**Theme 1: Influence on Awareness and Self-Confidence**

Qualitative data analysis corroborated the positive changes in the awareness and self-confidence of students, as illustrated by the excerpts provided below.

“I joined the practice after the training more confidently because now I know how to communicate, what to say, and why. After the training, I had the opportunity to observe patient handover at the hospital, and I can now notice instances of ineffective communication.”

**Theme 2: Learning Through Practice**

Students stated that they could not get an opportunity to communicate with nurses and physicians in the clinic and that they could only observe. They stated that they got the opportunity to practice before graduating from this training.

“We all practiced with the SP interviews. Normally, in the hospital, we observe as a third perform from a distance…we had the opportunity to practice individually… it was perfect in terms of reinforcement that we got to practice by participating standardized participant interview.”

**Theme 3: A Useful Communication Framework**

Students stated that the communication framework used in the training allowed them to understand the communication process better and communicate effectively. Furthermore, they noted that the steps of the communication framework are understandable, easy to remember, and prepared in detail.

“…effective listening and feedback are critical…when I say ‘LISTEN TO ME’, I actually make a request from the receiver. Just as I want the other person to listen to me, I should listen to him/her. The steps of the communication framework are very detailed.”

**Discussion**

Effective communication has an important role in ensuring perinatal patient safety, and it is very important for nurses, who are important members of health professionals, to have effective communication skills. This study developed an online communication training based on the ADDIE model for nursing students to learn the effective communication process and evaluate its effect on communication skills. Significant differences were found between the posttest mean scores of the intervention and control groups. Thus, the training was successful in improving students’ effective communication skills in the perinatal area. The posttest mean scores in the intervention group were greater than in the control group. The results of this study are coherent with several previous studies wherein training was given to nursing students to improve their professional communication skills. In a study comprising nursing students who received

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**Table 5. General characteristics and homogeneity test results of the group at baseline (N = 80)**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Intervention group (n = 40)</th>
<th>Control group (n = 40)</th>
<th>( \chi^2 )</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>22.68 ± 1.023</td>
<td>22.45 ± 0.749</td>
<td>1.123</td>
<td>.27</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>34 (85.0%)</td>
<td>35 (87.5%)</td>
<td>0.105</td>
<td>.75</td>
</tr>
<tr>
<td>Male</td>
<td>6 (15.0%)</td>
<td>5 (12.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with scenario-based practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33 (82.5%)</td>
<td>35 (87.5%)</td>
<td>0.392</td>
<td>.53</td>
</tr>
<tr>
<td>No</td>
<td>7 (17.5%)</td>
<td>5 (12.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest of the outcome variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective communication skill-N</td>
<td>10.58 ± 1.93</td>
<td>10.28 ± 2.74</td>
<td>0.566</td>
<td>.57</td>
</tr>
<tr>
<td>Effective communication skill-P</td>
<td>9.20 ± 2.58</td>
<td>9.48 ± 3.03</td>
<td>−0.437</td>
<td>.66</td>
</tr>
<tr>
<td>Self-assessment of effective communication skill</td>
<td>21.73 ± 4.06</td>
<td>21.50 ± 3.74</td>
<td>0.172</td>
<td>.86</td>
</tr>
</tbody>
</table>

\( M \), mean; \( N \), nurse; \( P \), physician; SD, standard deviation.

**Table 6. Comparative results for the variables of interest (N = 79)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intervention group (n = 40)</th>
<th>Control group (n = 39)</th>
<th>( t )</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1_Effective communication skill_N</td>
<td>10.58 ± 1.93</td>
<td>10.33 ± 2.75</td>
<td>0.451</td>
<td>.65</td>
</tr>
<tr>
<td>T2_Effective communication skill_N</td>
<td>20.90 ± 1.81</td>
<td>20.15 ± 2.74</td>
<td>20.134</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>( t ); ( P )</td>
<td>−25.351; &lt;.001*</td>
<td>−20.98; .767</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1_Effective communication skill_P</td>
<td>9.20 ± 2.58</td>
<td>9.59 ± 2.98</td>
<td>−0.622</td>
<td>.53</td>
</tr>
<tr>
<td>T2_Effective communication skill_P</td>
<td>20.23 ± 1.73</td>
<td>20.15 ± 1.69</td>
<td>19.511</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>( t ); ( P )</td>
<td>−26.453; &lt;.001*</td>
<td>−13.00; .324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1_Self-assessment of effective communication skill</td>
<td>21.73 ± 4.06</td>
<td>21.69 ± 3.72</td>
<td>0.037</td>
<td>.97</td>
</tr>
<tr>
<td>T2_Self-assessment of effective communication skill</td>
<td>31.10 ± 1.69</td>
<td>31.27 ± 3.65</td>
<td>14.601</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>( t ); ( P )</td>
<td>−13.179; &lt;.001*</td>
<td>−5.72; .570</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( M \), mean; \( N \), nurse; \( P \), physician; SD, standard deviation; T1, pretest; T2, posttest.

*\( P < .005 \).

*\( P < .005 \).

Independent sample \( t \)-test.

Dependent sample \( t \)-test.
handover training, the students had significantly better posttest communication skill scores.23 In our study, the significant increases in the posttest mean scores of the intervention group can be attributed to the use of different teaching methods and techniques such as sample video discussions and SP interviews besides the theoretical training. In line with the quantitative results of the study, the results obtained from focus group interviews showed that students stated they achieved effective learning with all 3 parts: theoretical training, sample video discussion, and SP interviews. Furthermore, it is recommended to use structured communication frameworks to improve communication.24 In this context, a communication framework that addresses the perinatal area was prepared in our study. The students stated that the communication framework used in the study also helped them understand the communication process better. Additionally, it is believed that the fact that the availability to access training materials at any time facilitates students’ learning. The current study was very important for Turkish nursing students, as it included different teaching methods to ensure perinatal patient safety, focused on effective communication.

Ensuring students’ participation in assessment activities contributes to the creation of a healthy teaching-learning environment.25 In the present study, the students were asked to evaluate themselves after their performance. Self-assessment can make students more active and focused by supporting the person’s autonomy, teaching them to be independent of the trainer, and helping them to be aware of their strengths and weaknesses.26 In our study, in the posttest, self-assessment of effective communication skill scores was significantly higher in the intervention group than in the control group. In a similar study, Oh (2021)27 reported that there was a significant increase in the self-assessment scores of students after the training. The results obtained from focus group interviews showed that students stated that the training increased their awareness through sample video discussions, SP interviews, and also by observing of friend’s practice. Therefore, it is thought that the students in the intervention group are aware of their own learning through increased awareness. Along with self-assessment, students were given the responsibility of self-evaluation. Thus, it is thought that students take responsibility for their own learning and are aware of their strengths/weaknesses.

Limitations

This study has several limitations. It was conducted in the faculty of nursing of only one public university in Turkey. So, results cannot be generalized. In addition, the study does not cover the processes that will allow the evaluation of long-term behavioral changes in students.

Conclusion

Effective communication in the perinatal area is crucial, as undesirable events can develop suddenly and rapidly. It is essential for nursing students to acquire communication skills as part of their fundamental education. The study improved the communication skills of nursing students. Improving communication skills in nurses is critical to reducing preventable maternal, fetal, and neonatal deaths, which plays a vital role in ensuring perinatal patient safety. In addition, the communication training was given through a structured communication framework. By implementing a well-structured communication framework and practical courses, it is possible to enhance perinatal patient safety.

Data availability statement: The data that support the findings of this study are available on request from the corresponding author.

Data Committee Approval: Ethical committee approval was received from the Ethics Board for NonINTERVENTIONAL Clinical Studies of Hacettepe University (Approval no: 16969557-715, Date: April 2, 2019).

Informed Consent: Written informed consent was obtained from the participants who agreed to take part in the study.

Peer-review: Externally peer-reviewed.


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