

Original Article

Midwifery Students' Clinical Competence and Self-Confidence Regarding Midwifery Skills during Mentoring Practice: A Comparative Quasiexperimental Study

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Abstract

Background: Mentoring is accepted as an indispensable clinical education strategy for nursing and midwifery students in developed countries. In Turkey, although midwives see mentoring as part of their role, a mentoring protocol for midwifery education has not been established.

Objective: This study examined the effectiveness of mentoring practice on the clinical competence and self-confidence levels of final-year midwifery students regarding midwifery skills during the labor ward clinical practice.

Methodology: This study had a two-group pre-post-test non-randomized quasi-experimental research design. The study was conducted in the midwifery department of a state university and the maternity wards of two state hospitals in Turkey. A total of 38 final year midwifery students and seven mentor midwives participated in the study. The control group (n=19) conducted the mentoring practice in the 1st-7th academic weeks with a named mentor. The experimental group (n=19) conducted the mentoring practice in the 8th-14th academic weeks with a named mentor who had mentoring training. Mini Clinical Exercise (MiniCex) and Professional Skills Assessment Tool (PSAT) were administered to the groups as pre-tests, and the Mentorship Effectiveness Scale (MES) was administered to the groups as post-tests.

Results: The mean MiniCex and the PSAT scores of the midwifery students in both groups after clinical practice were significantly higher than that before clinical practice ($p < 0.05$). In the experimental group, a positive correlation between the mean MiniCex ($r = 0.680$; $p = 0.001$), the mean PSAT ($r = 0.473$; $p = 0.041 < 0.05$), and the mean MES scores was found.

Conclusion: This study's results indicate that the mentoring program components (*control group, assigned a mentor and **experimental group, assigned a mentor who had received mentoring training) effectively increase midwifery students' clinical competence and self-confidence regarding midwifery skills. The mentor-student assignment is as effective as a formal preparation of the mentor.

Keywords: Mentoring, midwife, midwifery education, clinical placement, labor ward, Turkey

Introduction

Midwives are essential care providers of pregnancy, childbirth, and postpartum care services. Midwives who are educated and trained to international standards have been identified as key to promoting health outcomes for women and newborns (UNFPA,

2021). Turkey is one of the countries cesarean sections now outnumber vaginal deliveries and, 52% of live births were cesarean deliveries in 2018 (Hacettepe University Institute of Population Studies, 2019). A report 2017 data indicates that only 29% of childbirths in Turkey were attended by

midwives (Turkish Health Research Presidency, 2017). The Turkish midwives' autonomy to conduct births on their authority is influenced negatively due to the low number of births supported by them (Hamlaci Baskaya and Sayiner, 2023).

The 2021 State of the World's Midwifery Report stated that fundamental resource and infrastructure challenges restrict midwifery students' opportunities to gain "hands-on" experience in many countries (UNFPA, 2021). One of these challenges is a current global shortage of midwives which is also highlighted in a national report from Turkey (Bora Basara et al., 2023, UNFPA, 2021). Unfortunately, among OECD countries, Turkey ranks last in terms of the number of physicians, nurses, and midwives per 100.000 (Babaoglu and Tekindal, 2021, Bora Basara et al., 2023).

Midwifery education aims to generate competent professionals who are knowledgeable, autonomous, and able to provide quality care. The acquisition of knowledge, skills, and professional attitudes specific to midwifery, which is a practice-based profession, is provided through theoretical and clinical education (Back and Karlstrom, 2020). High-quality and supportive clinical learning experiences are critical in enabling midwifery students to develop into competent professionals (Maxwell et al., 2015). The International Confederation of Midwives (ICM) recommends the formal preparation of a clinician midwife educator who can provide students with the benefit of their experience in various learning areas, be responsible for their clinical education, and meet their learning needs (ICM, 2021). Midwifery education programs in Turkey comprise the international standards and the ICM Essential Competencies for midwifery practice. Although midwives are responsible for supporting students in clinics, there is no standard/protocol for mentoring in midwifery in Turkey. The student's clinical training is primarily the responsibility of academicians midwives (Demirel et al., 2021).

The labor ward environment is an intense and challenging learning environment where the risks to maternal and newborn health can be

experienced and wrong decisions can lead to serious consequences (Brunstad and Hjalmskult, 2014). Although access to learning experiences in this intense environment is abundant, the challenges of a placement can be stressful for students (Vermeulen et al., 2019). In a Turkish study, third- and fourth-year midwifery students had high levels of trait anxiety concerning actively attending labor and births and delivering babies (Duran Aksoy et al., 2017). In particular, the requirement for students to assist in a certain number of deliveries to become a midwife, as in Sweden, could be a source of stress (Zwendberg et al., 2020a). In addition, acquiring skills in the ability to conduct vaginal examinations, episiotomies, and perineal repair in the labor ward was challenging for students and they had less self-confidence in these skills (Back et al., 2017, Vermeulen et al., 2019). In this respect, midwives were gatekeepers for the student's access to learning opportunities in labor wards (Brunstad et al., 2016).

Mentoring in a high-quality clinical learning environment is associated with the quality of the student-mentor relationship, the determination of the student's clinical learning goals, the mentor's involvement in the student's learning process, and their support of the student's professional development (Saukkoriipi et al., 2020). In this process, the mentor-student relationship is a prerequisite for the learning process and self-efficacy of midwifery students (Folkvord and Risa, 2022). This relationship is essential for achieving a good learning outcome and developing the student's self-confidence (Zwendberg et al., 2020b). In midwifery education, mentors are crucial and valuable role models for students and enhance the students' learning (Licqurish and Seibold, 2008, Moran and Banks, 2016, Zwedberg et al., 2020a). The fact that midwives welcome students into the labor ward, make them feel valued and included in the working environment, and help students find their roles in the ward facilitates learning (Brunstad et al., 2016, Hughes and Fraser, 2011). Previous studies stated that the establishment of a professional mentor-student relationship in labor wards plays a key role in student's learning and increases the students' self-

confidence and self-esteem (Brunstad et al., Thunes and Sekse, 2015, Vermeulen et al., 2019). The mentor role of midwives enables students to realize their behaviors and self-confidence in midwifery care practices (Jordan and Farley, 2008). For this reason, this study aimed to assess the effectiveness of mentoring practice for final-year midwifery students' clinical competence and self-confidence regarding midwifery skills during the labor ward.

Materials and Methods

Design and Setting: This study had a two-group pre-post-test non-randomized quasi-experimental research design. The study was conducted at the labor wards of two maternity and child hospitals located in the Aegean region of Turkey, within the clinical practice plan of the Internship course between February 28, 2017 and June 2, 2017 (spring semester).

Population and Sample: The student population of the study comprised 82 final-year midwifery undergraduate students. Inclusion criteria were: 1) being a final-year midwifery student, 2) attending the internship course for the first time, and 3) agreeing to participate in the study. The study sample was made up of 38 midwifery students. Randomization was not performed in the assignment of students to experimental and control groups. Because midwifery students who did not perform 40 birth practices, had primarily placement in labor wards. The mentor population consisted of 46 midwives working in the labor wards of four hospitals (one university hospital and three state hospitals) where the students had internship courses. In the study, the mentoring practice was implemented in the labor wards of the two hospitals. Because the midwives had autonomy in delivering babies besides providing support and care to the mothers and babies during labor, birth, and after the baby is born. The mentor sample was a total of 7 midwives, 4 midwives in Hospital A, and 3 midwives in Hospital B.

Measurements

Student Information Form: The form questions about sociodemographic characteristics of midwifery students and their opinions about clinical practices.

Mentor Information Form: The form, consisted of ten questions about the sociodemographic and professional characteristics of midwives.

Mini Clinical Exercise (MiniCex): The MiniCex is an assessment tool that involves many dimensions of observed performance and assesses the general level of competence in essential professional skills. However, it is also a formative assessment and feedback tool that ensures students' clinical skills are observed and evaluated in fact. It was adapted to midwifery education by Sweet et al. (Sweet et al., 2013). The MiniCex tool included three sections. In the first section, the student's name, ID, midwifery context (antenatal, labor and birth, postnatal, newborn care), clinical setting (Clinic, emergency, ward, etc.), task focus (history, examination, etc.) and case complexity (low, average, high) is sought. The second section of the MiniCex focuses on the skills expected to be performed by the students. The section contains seven dimensions history taking skills, examination skills, communication skills, clinical management, professionalism, organization, and overall competence. Each dimension is scored using a five-point Likert-type scale (0-1=below expectations, 2=borderline performance, 3=meets expectations, 4-5=above expectations) in which the student's performance is evaluated. In the third and final part of the MiniCex, there is a feedback section where the assessor can write notes on three questions. In this study, Cronbach's alpha coefficient for the whole MiniCex was 0.92. Students' clinical performance increases as the MiniCex score increases.

Professional Skills Assessment Tool (PSAT): This tool was prepared by the researchers, to measure midwifery students' self-confidence levels regarding professional skills during clinical practice. The five-point Likert-type (1: not at all, 5: extremely confident) tool consists of 50 items and four midwifery competency sub-dimensions. These sub-dimensions are antepartum care (14 skills), intrapartum care (12 skills), postpartum care (14 skills), and newborn care (10 skills). In this study, Cronbach's alpha coefficient for the whole PSAT was 0.96. Higher scores show higher self-confidence.

Mentorship Effectiveness Scale (MES): This scale was developed by Berk et al. to evaluate the effectiveness of the mentoring relationship from the mentee's perspective (Berk et al., 2005). The MES consisted of 12 behavioral characteristics of the mentor scored on a six-point Likert scale (0=strongly disagree, 5=strongly agree). The score obtained from the scale varies between 0 and 60. The Turkish validity and reliability of the scale were performed by Vatan and Bayik Temel (2009) within the scope of their published doctoral thesis (Vatan and Temel, 2016). In our study, the Cronbach's alpha value of the MES was 0.96.

Data Collection

The Formation of Student Groups and Selection of Mentors: According to the clinical practice plan of the Internship course, the senior year students were divided into two groups; in the 1st-7th weeks, the first group had clinical practice in the hospitals also the second group had in the primary health care maternity services. In the 8th-14th weeks, the student groups changed the institutions. In this way, all students completed both rotations before graduation during the semester. Midwifery teachers visited the institutions every week and took feedback about the students from midwives. The mentoring practice as the clinical practice of the Internship course was carried out on the clinical practice 4 consecutive days (32 hours) a week for 14 weeks (spring semester). All senior students were given information about the mentoring practice and voluntary participation in research before the clinical practice. Midwifery students who had the clinical practice in the 1st-7th weeks were assigned to the **control group** (n=19). In the 8th-14th weeks, the students who had the clinical practice of the internship were assigned to the **experimental group** (n=19). The mentoring practice was implemented simultaneously in the labor wards of two hospitals. One student withdrew from the study in the control group in Hospital A due to a health problem. In this study, midwives' inclusion criteria were: 1) having worked in the labor wards for at least five years, 2) agreeing to participate in the study and 3) voluntarily taking the mentor role. After midwives were informed about the research,

4 midwives in Hospital A and 3 midwives in Hospital B voluntarily agreed to participate and became mentors. The same midwives were mentors to both student groups. There was no loss in the mentor sample.

Control Group Pre-Post-Test Application: Control group students (n = 19) (Hospital A: 9 students, Hospital B: 10 students):

(1) Each student completed internship practice in both hospitals in the 1st-7th academic weeks.

(2) Each student was assigned a mentor.

Midwives and students were introduced and assignments were held in both hospitals on the first day of clinical practice. Student Information Form and Mentor Information Form were administered to the participants. At the end of the 1st week of mentoring practice, students completed the Professional Skills Assessment Tool (pre-test) and mentors assessed the clinical competence of the control group with Mini Clinical Exercise (pre-test). At the end of the 7th week of the mentoring practice, the control group students completed the Professional Skills Assessment Tool (post-test) and mentors assessed the clinical competence of the control group with Mini Clinical Exercise (post-test). In addition, students completed the Mentorship Effectiveness Scale about their mentors (post-test).

Experimental Group Pre-Post-Test Application

Experimental group (n = 19) (Hospital A: 9 students, Hospital B: 10 students):

(1) Each student completed internship practice in both hospitals in the 8th and 14th academic weeks.

(2) Each student was assigned a mentor.

(3) Mentors received 2 hours of formal mentoring training.

Before the mentoring practice, midwife mentors in both hospitals were provided 2h of mentoring training. For facilitating students' learning, the mentors were expected to be midwife role models to the midwifery students by providing guidance, giving constructive feedback, and hands-on practice under their supervision. Mentor midwives and new students were introduced and assignments were held in both hospitals on the first day of clinical practice. Student Information Form was were administered to

the students. At the end of the first week of mentoring practice (8th week), students completed the Professional Skills Assessment Tool (pre-test) and mentors assessed the clinical competence of the experimental group with Mini Clinical Exercise (pre-test). In the 14th week of the mentoring practice, the experimental group students completed the Professional Skills Assessment Tool (post-test) and mentors assessed the clinical competence of the control group with Mini Clinical Exercise (post-test). In addition, students completed the Mentorship Effectiveness Scale about their mentors (post-test).

Statistical Analysis: IBM SPSS Statistics version 25.0 was used to analyze the data. The normality of data distribution was checked by the Shapiro–Wilk test. Number, percentages, mean and standard deviation were used in the analysis of descriptive data. Mann-Whitney U Test was used to determine the pretest/posttest differences between the groups. Wilcoxon Signed Rank Test was used to compare the differences between the pre-test and post-test mean scores within the group. Spearman correlation analysis was used to compare the correlation between continuous variables. The level of significance was determined $p < 0.05$.

Ethical Approval: Ethical approval was obtained from the Izmir Kâtip Çelebi

University Non-Interventional Clinical Research Ethics Committee (Decision No: 89; Date: April 21, 2016). The approved written permission of the midwifery department and two maternity and child hospitals was obtained. All students and midwives in the study were given informed consent about the aim and method of the study, and the voluntary nature of their participation and withdraw from study participation at any time. Verbal and written consent was obtained from the students and midwives before the collection of the data.

Results

Sociodemographic characteristics of the midwifery students and mentors

The midwifery students' mean age was 22.16 ± 1.15 years (21-27). There was no significant difference between the student groups in terms of sociodemographic characteristics ($p > 0.05$) (Supplementary Material Table 1). The mentors in the two hospitals where the mentoring practice was conducted were compared according to sociodemographic and professional characteristics, there was no significant difference between them ($p > 0.05$) (Supplementary Material Table 2).

Supplementary Material Table 1: Comparison of midwifery students by demographic characteristics

| | | | Experimental group (n = 19) | Control group (n = 19) | Total | <i>p</i> | |
|--|-----------------------|-------|--------------------------------|---------------------------|-----------|----------|-------|
| Age | 22 and below | n (%) | 13 (68.4) | 15 (78.9) | 28 (73.7) | 0.543 | 0.461 |
| | 23 and above | n (%) | 6 (31.6) | 4 (21.1) | 10 (26.3) | | |
| Type of high school graduated from | Anatolian high school | n (%) | 12 (63.2) | 9 (47.4) | 21 (55.3) | 0.958 | 0.328 |
| | Other | n (%) | 7 (36.8) | 10 (52.6) | 17 (44.7) | | |
| Midwifery undergraduate education is mostly..... | Theoretical | n (%) | 11 (57.9) | 13 (68.4) | 24 (63.2) | 0.452 | 0.501 |
| | Practice | n (%) | 8 (42.1) | 6 (31.6) | 14 (36.8) | | |

$\chi^2 = \text{Chi-square test}$

Supplementary Material Table 2: Comparison of mentor midwives in two hospitals by the demographic characteristics

| | | | A hospital (n = 4) | B hospital (n = 3) | Total | X ² | p |
|------------------------|--------------------|-----------|-----------------------|-----------------------|------------|---------------------|-------|
| Midwifery degree | Bachelor degree | n (%) | 2 (50.0) | 1 (33.3) | 3 (42.9) | Fisher's Exact Test | 1.000 |
| | Health high school | n (%) | 2 (50.0) | 2 (66.7) | 4 (57.1) | | |
| Age, years | | Mean±SD | 34.75±8.65 | 40.67±6.35 | 37.29±7.80 | Z=-1.101 | 0.271 |
| Work experience, years | | Mean ± SD | 14.5±11.7 | 18.00±3.00 | 16.00±8.66 | Z=-0.357 | 0.721 |

X² = Chi-square test; Z = Mann-Whitney U test

Comparison of the mean MiniCex scores of the midwifery students before and after mentoring practice

Before (pre-test) the clinical practice, the total and sub-dimensions of the mean MiniCex scores of the experimental and control group were compared, there was no statistically significant difference between the groups ($p > 0.05$). Likewise, after (post-test) the clinical practice, there was no significant difference between the groups in terms of the mean MiniCex scores ($p > 0.05$). For midwifery students in both groups, the mean MiniCex scores after clinical practice were significantly higher than that before clinical practice ($Z_{exp} = -3.728$, $p_{exp} = 0.001 < 0.05$; $Z_{cont} = -3.842$, $p_{cont} = 0.001 < 0.05$) (Table 1).

Comparison of the mean PSAT scores of the midwifery students before and after mentoring practice

The total and sub-dimensions of the mean PSAT scores of the experimental group before clinical practice (pre-test) were significantly higher than that of the control group ($p < 0.05$). Similarly, after clinical practice (post-test), the mean PSAT scores of the experimental group were found to be

significantly higher than that of the control group ($p < 0.05$). Additionally, for midwifery students in both groups, the mean PSAT scores after clinical practice were significantly higher than that before clinical practice ($p < 0.05$). This suggests that the mentoring practice was beneficial in increasing the self-confidence of students who were simply assigned a mentor (the control group) besides that who were assigned a mentor who had received mentoring training (the experimental group) (Table 2).

The correlation between the mean MiniCex, PSAT and MES scores of the midwifery students after mentoring practice

At the end of the mentoring practice, there was a statistically significant positive correlation between the mean MiniCex and PSAT scores in the experimental group ($r = 0.687$; $p = 0.001$). In addition, in the experimental group, a positive correlation between the mean MiniCex ($r = 0.680$; $p = 0.001$), the mean PSAT ($r = 0.473$; $p = 0.041 < 0.05$), and the mean MES scores was found. However, there was no statistically significant correlation between the scores in the control group (Table 3).

Table 1: Midwifery students' clinical competence scores before and after mentoring practice

| Sub-domains | | Experimental group (n = 19) Mean ± SD | Control group (n = 19) Mean ± SD | Z* | p |
|-----------------------|-----------|---|--|--------|-------|
| History taking skills | Pre-test | 2.74 ± 0.56 | 2.63 ± 0.83 | 0.547 | 0.585 |
| | Post-test | 4.00 ± 0.81 | 4.37 ± 0.76 | -1.448 | 0.148 |

| | | | | | |
|------------------------------------|------------|---------------------|---------------------|--------|-------|
| Examination skills | Z** | 3.611 | 3.787 | | |
| | p | <0.001*** | <0.001*** | | |
| | Pre-test | 2.68 ± 0.74 | 2.37 ± 0.76 | 1.526 | 0.127 |
| | Post-test | 3.74 ± 0.73 | 3.95 ± 0.78 | -0.847 | 0.397 |
| Communication skills | Z** | 3.397 | 3.572 | | |
| | p | <0.001*** | <0.001*** | | |
| | Pre-test | 3.16 ± 0.68 | 3.47 ± 0.77 | -1.546 | 0.122 |
| | Post-test | 4.26 ± 0.93 | 4.42 ± 0.60 | -0.209 | 0.834 |
| Clinical management | Z** | 3.520 | 3.354 | | |
| | p | <0.001*** | <0.001*** | | |
| | Pre-test | 2.84 ± 0.83 | 2.79 ± 0.71 | 0.048 | 0.962 |
| | Post-test | 4.11 ± 1.04 | 4.26 ± 0.65 | -0.094 | 0.925 |
| Professionalism | Z** | 3.499 | 3.453 | | |
| | p | <0.001*** | <0.001*** | | |
| | Pre-test | 3.32 ± 0.82 | 3.21 ± 0.53 | 0.506 | 0.613 |
| | Post-test | 4.05 ± 1.02 | 4.47 ± 0.69 | -1.368 | 0.171 |
| Organization | Z** | 2.122 | 3.453 | | |
| | p | 0.034*** | <0.001*** | | |
| | Pre-test | 2.74 ± 0.93 | 2.84 ± 0.50 | -0.743 | 0.458 |
| | Post-test | 3.79 ± 1.13 | 4.16 ± 0.68 | -0.892 | 0.372 |
| Overall clinical competence | Z** | 3.086 | 3.727 | | |
| | p | 0.002*** | <0.001*** | | |
| | Pre-test | 3.16 ± 0.83 | 2.89 ± 0.80 | 0.854 | 0.393 |
| | Post-test | 4.05 ± 0.97 | 4.47 ± 0.61 | -1.325 | 0.185 |
| Total MiniCex scores | Z** | 3.019 | 3.681 | | |
| | p | 0.003*** | <0.001*** | | |
| | Pre-test | 20.63 ± 4.23 | 20.21 ± 3.11 | -0.088 | 0.929 |
| | Post-test | 28.00 ± 5.82 | 30.11 ± 3.54 | -1.144 | 0.252 |
| | Z** | -3.728 | -3.842 | | |
| | p | <0.001*** | <0.001*** | | |

*Mann-Whitney U Test **Wilcoxon Signed Ranks Test ***p < 0.05

Table 2: Midwifery students' self-confidence scores before and after mentoring practice

| | | Experimental group (n = 19) Mean ± SD | Control group (n = 19) Mean ± SD | Z* | p |
|----------------------------------|------------|--|---|-----------|------------------------------|
| PSAT Antepartum care | Pre-test | 64.16 ± 6.61 | 57.21 ± 7.72 | -2.945 | 0.003^c |
| | Post-test | 67.95 ± 3.83 | 62.79 ± 5.30 | -3.881 | <0.001^c |
| | Z** | -3.421 | -3.117 | | |
| | p | 0.001*** | 0.002*** | | |
| PSAT Intrapartum care | Pre-test | 50.42 ± 7.08 | 40.37 ± 7.79 | -3.552 | <0.001^c |
| | Post-test | 55.74 ± 4.42 | 49.89 ± 5.43 | -3.152 | 0.002^c |
| | Z** | -3.624 | -3.684 | | |
| | p | <0.001*** | <0.001*** | | |
| PSAT Postpartum care | Pre-test | 64.42 ± 5.69 | 56.89 ± 6.86 | -2.858 | 0.004*** |
| | Post-test | 68.26 ± 3.28 | 63.37 ± 6.19 | -3.125 | 0.002*** |
| | Z** | -3.324 | -3.167 | | |
| | p | 0.001*** | 0.002*** | | |
| PSAT Newborn care | Pre-test | 45.84 ± 2.91 | 42.53 ± 4.98 | -2.246 | 0.025^c |
| | Post-test | 48.21 ± 1.90 | 45.79 ± 3.69 | -2.118 | 0.034^c |
| | Z** | -3.311 | -3.117 | | |

| | | |
|--|-----------------|-----------------|
| <i>p</i> | 0.001*** | 0.002*** |
| *Mann-Whitney U Test **Wilcoxon Signed Ranks Test *** $p < 0.05$ | | |

Table 3: The correlation between the midwifery students' scores on the scales after mentoring practice

| | | Experimental group (n = 19) | | | Control group (n = 19) | | |
|----------------|---|--------------------------------|---------------|-----|---------------------------|-------|-----|
| | | MiniCex | PSAT | MES | MiniCex | PSAT | MES |
| MiniCex | r | 1 | | | 1 | | |
| | p | | | | | | |
| PSAT | r | 0.687** | 1 | | 0.390 | 1 | |
| | p | 0.001 | | | 0.098 | | |
| MES | r | 0.680** | 0.473 | 1 | 0.067 | 0.144 | 1 |
| | p | 0.001 | 0.041* | | 0.786 | 0.558 | |

* $p < 0.05$ ** $p < 0.01$ r = Spearman's Rank Correlation Coefficient

Discussion

This study implemented two mentoring program components (*control group, assigned a mentor, and **experimental group, assigned a mentor who had received mentoring training), and their effects compared to examine the effectiveness on midwifery students' clinical competence and self-confidence in midwifery skills levels in the labor ward. Results of the study showed no difference between the two groups on the total and all sub-dimensions of clinical competence (MiniCex) levels after (post-test) the clinical practice. In the current study, the midwifery students' clinical competence in both groups increased after clinical practice than before clinical practice. In this regard, our study indicates that mentoring program components effectively improved midwifery students' clinical competence. Congruent with our findings, the mentoring program was reported to be effective in improving students' competencies and clinical skills in the study conducted by (Adnani et al., 2022, Back and Karlstrom, 2020, Demirel et al., 2021, Vermeulen et al., 2019). At the same time a study conducted in Turkey, final-year midwifery students' knowledge and skill levels increased, and they gained more

experience due to mentoring (Demirel et al., 2021).

In this study, the midwifery students' self-confidence (PSAT) levels regarding midwifery skills were compared, the experimental group's self-confidence scores before and after clinical practice were significantly higher than that of the control group. It is assumed that the reason why the experimental group had higher self-confidence levels before practice is that they first had the internship practice in the primary health care maternity services (1-7 weeks), and familiar with clinical practice than the control group students. Additionally, for midwifery students in both groups, the self-confidence scores after clinical practice were significantly higher than that before clinical practice. Both group students' antepartum, intrapartum, postpartum, and newborn care skills levels increased after the clinical practice in the labor wards. Midwifery students were dependent on midwives because of the complexity of the labor ward (Brunstad and Hjalhmult, 2014, Thunes and Sekse, 2015). In the literature, the effective mentor was considered essential for the development of midwifery students' confidence, and confidence was accepted as

an inseparable part of learning (Jordan and Farley, 2008, Licqurish and Seibold, 2008). In a student-centered clinical learning environment, hands-on practice and the supportive attitudes of role model mentors enable students to develop competence and self-confidence (Adnani et al., 2022). In one study conducted in Turkey, clinical practice of the internship was shown to be effective in helping students acquire practical skills, develop self-confidence, and learn the functioning of the professional environment (Yazici, 2010).

At the end of the mentoring practice, in evaluating the relationship between the midwifery students' clinical competence, self-confidence levels, and mentors' effectiveness, the experimental group's clinical competence increased as their self-confidence increased. Additionally, it was found that the experimental group's clinical competence and self-confidence levels increased as mentors' effectiveness increased. In contrast, there was no difference between the scores in the control group. For students, actively attending at birth and acquiring intrapartum skills (such as vaginal examination, episiotomy, and perineal repair) can be challenging (Duran Aksoy et al., 2017, Vermeulen et al., 2019). However, in the labor ward, the students pairing with a mentor who understands their learning needs provides a good learning experience, and their level of self-confidence increases when they establish a trusting relationship with their mentor (Brunstad et al., 2016, Thunes and Sekse, 2015). Other studies have proved that the student-mentor relationship is the most important factor affecting students' learning and self-confidence in clinical placement (Back and Karlstrom, 2020, Brunstad et al., 2016, Demirel et al., 2021, Thunes and Sekse, 2015). Amod and Mkhize state that midwifery students' level of proficiency in clinical skills depends on the quality of clinical support they receive from their mentors (Amod and Mkhize, 2022). As students' self-efficacy increases in clinical practice, their clinical competence also increases (Mohamadirizi et al., 2015). The results of our study support the studies in the literature, and it was established that the more experience students have with their mentors during labor ward clinical

practice, the more clinical competence and self-confidence in midwifery skills they gain.

Conclusions: The study results indicate that the mentoring program components (*control group, assigned a mentor, and **experimental group, assigned a mentor who had received mentoring training) effectively increase midwifery students' clinical competence and self-confidence during labor ward clinical practice. The students who were assigned a mentor, antepartum, intrapartum, postpartum, and newborn care skills levels increased after the clinical practice. At the end of the mentoring practice, the experimental group's clinical competence improved as their self-confidence increased additionally, students' clinical competence and self-confidence levels improved as the mentor's effectiveness increased. In this regard, we recommend that the mentoring program be used as an additional program for midwifery students during labor ward clinical practice, and mentor-student assignment should be considered rather than the master-apprentice relationship. Our study suggests that the current problems such as the shortage of midwives and the workload in labor wards will not prevent the mentoring program from being integrated into the clinical training of midwifery students.

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